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SPECIAL ARTICLE.

THE HOME IN ITS RELATION TO THE TUBERCULOSIS PROBLEM.*

BY WILLIAM OSLER, M.D.,

OF BALTIMORE, MD.,

PROFESSOR OF MEDICINE, JOHNS HOPKINS UNIVERSITY.

I.

IN its most important aspects the problem of tuberculosis is a home problem. In an immense proportion of all cases the scene of the drama is the home; on its stage the acts are played, whether to the happy issue of a recovery, or to the dark ending of a tragedy, so commonplace as to have dulled our appreciation of its magnitude. In more than 400 homes of this country there are lamentations and woe to-night: husbands for their wives, wives for their husbands, parents for their children, children for their parents. A mere repetition of yesterday's calamities! and if the ears of your hearts are opened you can hear, as I speak, the beating of the wings of the angels of death hastening to the 400, appointed for to-morrow. That this appalling sacrifice of life is in large part unnecessary, that it can be diminished, that there is hope even for the poor consumptive—this represents a revulsion of feeling from an attitude of oriental fatalism which is a triumph of modern medicine. Our French brethren have made the present position of the question possible. Laennec, the father of modern clinical medicine, gave us the pathology of the disease—and much more. While Galen, Frascatorius, Morton and others believed strongly in the contagiousness of phthisis, it remained for Villemin to demonstrate its infectiveness by a series of brilliant experiments which made Koch's work inevitable; while to Verneuil, Chauveau, Nocard, Brouardel and others we owe the initiation of those local and international congresses which have done so much to rend the veil of familiarity, and to educate the public and the profession to a point at which scientific knowledge has become effective. It seems a law that all great truths have to pass through a definite evolution before they reach a stage of practical utility. First the pioneers, seeing as through a glass darkly groped blindly for the truth, but worked so effectually that by the seventh decade of the nineteenth century we had a clear pathology of tuberculosis and an accurate symptomatology; while in each generation a man had not been wanting, who, like Sydenham, or George Bodington, appreciated the essentials of treatment, as we recognize them to-day. Then Villemin and Koch demonstrated the truth of the infectivity of the disease and the presence of a specific germ. Watchers on the towers, like the late Austin Flint, a lifelong student of the disease, welcomed the announcement as the much-wished-for fulfilment of a prophecy; but, as Plato shrewdly remarks, we are not all awake when the dawn appears, and many in this audience, like myself, had to see the truth grow to acceptance with the generation in which it was announced. It is a horrible thought, but very true, that we reach a stage in life, some earlier, some later, in which a new truth, a perfectly obvious truth, cannot be accepted; and the work of Villemin and of Koch fared no whit better with the seniles and the pre-seniles of the seventh and eighth decades of the last century than did Harvey's immortal discovery in his day, or for the matter of that, did Lister's great work. And now we are in the third or final stage, in which the truth is becoming an effective weapon in the hands of the profession and of the public. The present crusade against tuberculosis, which is destined to achieve results we little dream of, has three specific objects; first, educational—the instruction of the profession and the instruction of the people; second, preventive—the promotion of measures which will check the progress of the disease in the community; third, curative—the study of methods by which the progress of the disease in individuals may be arrested or healed. The three are of equal importance, and the first and the second closely related and interdependent. The educational aspects of the problem are fundamental. Nothing can be done without the intelligent cooperation of the general practitioners and of the community, and it is a wise action on the part of the Phipps Institute to take up actively this part of the work, and to spread a sound knowledge by lecture courses and by publications. It is not too much to say that could we get on the part of the doctors throughout the country an early recognition of the cases, with a practical conviction of the necessity of certain urgent and obvious measures, and on the part of the public attention to hygienic laws of the most elementary sort—could we in this way get the truth we know into the stage of practical efficiency, the problem would be in sight of solution.

Of late years there have been done in this country three pieces of work relating to tuberculosis of the first rank—that of Trudeau in the Adirondacks, enforcing on our minds the importance of the sanitarium treatment of early cases; that of Biggs and his associates in the New York Board of Health in demonstrating how much can be done by an efficient organization; and, thirdly, the work of Lawrence F. Flick, the Director of the Phipps Institute, in demonstrating by a long and laborious research the dangers of the house

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in the propagation of the disease. In casting about for a subject it seemed to me most appropriate to discuss those aspects of the problem which concern the home in its relations to the disease, since after all the battlefield of tuberculosis is not in the hospitals or in the sanitaria, but in the homes, where practically the disease is born and bred.

II.

The germ of tuberculosis is ubiquitous; few reach maturity without infection; none reach old age without a focus somewhere. This is no new opinion. Gideon Harvey, in his *Morbus Anglicus* (1672, 2d. Ed.), says: "It's a great chance we find, to arrive to one's grave in this English climate, without a smack of a consumption, Death's direct door to most hard students, divines, physicians, philosophers, deep lovers, zealots in religion," which is the English equivalent of the German popular saying, "Jedermann hat am Ende ein bischen Tuberculose." This may seem an exaggerated statement, but the records of Naegeli demonstrate its truth. After all, it is only from the post-mortem table that we can get a true statement of the frequency of tuberculosis in the community. It has long been known that a very considerable percentage of persons not dying from consumption have the lesions of tuberculosis. The records have ranged in different series from 7.5 per cent. (Osler), to 38.8 per cent. (Harris). But these studies were not made directly with a view of determining the presence of tuberculosis. They were the ordinary, everyday observations of the post-mortem room. The only series which we have dealing with this question in a satisfactory way is the study of 500 post mortems in Prof. Ribbert's Institute in Zurich, by Naegeli. It is to be borne in mind that in his work special examination was made of every organ of the body, sections were made of all parts with the greatest care, and the individual lymph glands particularly inspected. Tuberculous lesions were found in 97 per cent. of the bodies of adults.* He gives a very interesting curve showing the incidence at different ages. Up to the fifteenth year there was only 50 per cent., then there was a sudden rise in the eighteenth year to 96 per cent., with a slow rise, so that by the fortieth year a tuberculous focus was found in everybody. This careful research demonstrates the extraordinary susceptibility in man to tuberculous infection, and an equally extraordinary degree of resistance. In the tuberculin experiments of Franz on healthy Austrian soldiers a reaction was shown in over 60 per cent., so that we must accept the conclusion that tuberculous infection, latent tuberculosis, is much more extensive than is the manifest disease.

One interesting point is that we are never left long in peaceful possession of a satisfactory belief about the modes of infection in tuberculosis. No sooner had the pool got quiet and we had settled into a comfortable conviction of the unity of human and bovine tuberculosis, than Koch stepped in and troubled the waters with his views on their dual nature; and now, just as the commotion was subsiding, von Behring stirs the waters by referring all tuberculosis to the milk-jug. But none of these investigations have diminished the importance of the home as the chief source of infection, the place in which the conditions favoring contamination are most common, particularly among the poor. Nor do I think that we can give up the view of aerial convection and of primary inhalation infection in a large proportion of the cases. Figures are, of course, tricky playthings, but it does seem that the overwhelming evidence of the prevalence of bronchial and pulmonary tuberculosis in children is in favor of the older views. After all, how rare is intestinal tuberculosis as a primary lesion, and if, as von Behring supposes, there is a special vulnerability of the bowels in childhood, we should expect a much larger number of cases. It is quite possible, as he has shown, and as Ravenel has demonstrated, that the bronchial and cervical lymph glands may be the first attacked in an animal infected through the intestines; yet the incidence in childhood of respiratory disease is so large, and the incidence of intestinal lesions is so small, that it counts strongly against von Behring's new views. In fact, primary intestinal tuberculosis is extraordinarily rare. Koch states that there have only been ten cases in ten years at the Charité Hospital, Berlin, and of 3,104 instances of tuberculosis in children there were, according to Biedert, only 16 cases, while in adults primary intestinal tuberculosis occurred in but one instance in 1,000 autopsies at the Munich Pathological Institute. In this country the studies of Bovaird in New York and of Hand in Philadelphia speak strongly in favor of air-borne infection in the large majority of cases in children. There is a special liability of the milk to become contaminated by the dust in uncleanly streets and in dirty houses, and upon this mode of infection von Behring lays great stress, and in infancy, either in this way or from the milk of tuberculous cows, he thinks the majority of persons become infected. Apparently he does not adopt Baumgarten's view of the latency of the germ itself, but of the latency of small foci of disease acquired in childhood, which only develop into active tuberculosis under favorable circumstances. It may be well to quote his own words in this connection, as his views are of importance: "I am well acquainted with the statistical arguments based on the higher returns of infection and mortality from consumption amongst attendants on the sick residents in houses occupied by people known to be phthisical, and inmates of prisons, which are intended to demonstrate the origin of pulmonary phthisis from the inhalation of particles of dust, or moisture containing tubercle bacilli. But in view of the extensive dissemination of tuberculosis above described amongst the human race, there is ample justifi-

* Virchow's Archiv, 1900, Bd. CLX, page 426.

cation for the objection that in cases of this kind, where persons succumb to pulmonary phthisis, tuberculous foci pre-exist in their lungs, and that these pulmonary lesions already present developed into active consumption, owing to the adoption by those persons of a mode of life favoring tuberculosis." (*British Medical Journal*, Translation Oct. 17, 1903.)

We need a systematic inspection, according to Naegeli's method, of the bodies of children dead of acute diseases, so as to get, if possible, the true incidence of infection in them. Councilman and others have shown how frequently tuberculosis is present in the bodies of young children dead of diphtheria, but the statistics at our disposal certainly do not bear out this view of von Behring, which would lead us to suppose that infection was largely a matter of childhood. Naegeli's figures on this point are interesting, though he only had 88 autopsies on children. Still his results are of value, as the inspections were made with such very special care. Of these 88 children there were only 15 with tuberculous lesions. In 10 of these the tuberculosis ran a fatal course; in 4 there were advanced lesions which did not cause death, and in only 1 was there a definitely healed lesion.

Sown broadcast as they are in our modern life, it is evident that few people reach maturity without harboring the seeds of tuberculosis. That we do not all die of the disease is owing to the resistance of the tissues, in other words, to an unfavorable, *i.e.*, the rocky soil on which the seeds have fallen. The parable of the sower sets forth in an admirable way the story of the disease. Since I used it in 1892, the illustration has become hackneyed, but in a semi-popular lecture I may be permitted to employ it again. The seed that falls by the wayside are the bacilli that reach our great highways, the air passages and intestines, in which they are picked up by the phagocytes, representing the birds of the air, or they are trodden under foot by the swarms of contending organisms. The seed that falls on stony places is that which reaches the lymph-nodes of the bronchi and mesentery, and though it springs up and flourishes for a while, there is no depth of earth, and, lacking moisture, it withers away into cretaceous healing. And that which falls among thorns represents the bacilli which effect a lodgment in the lungs, the kidneys or elsewhere, where they thrive and grow and produce extensive changes, but the thorns—the equivalent of the cares of this world and the deceitfulness of riches, in the parable—grow up also, and in the form of delimiting inflammatory processes and of contracting fibrosis, choke the seed, and recovery ultimately takes place. But falling on good ground, the seed springs up, increases and brings forth fruit some thirty, some sixty and some a hundredfold, which may be taken to represent the cases of chronic, subacute and acute tuberculosis. We are beginning to appreciate that the care of the soil is quite as important as the care of the seed. We cannot repeat Trudeau's remarkable environment experiment in our cities, but we learn a practical lesson of the influence of fresh air, open spaces and sunlight upon infected individuals. Much has already been done in this direction, and the reduction of the mortality from tuberculosis which has been going on for the past twenty-five years has been in great part due to improved sanitation. We have only made a beginning, but to know the enemy in this case, to know that his strength lies in the homes of the poor, is more than half the battle.

Let us look at the conditions confronting us in one of the large eastern cities. Like Philadelphia, Baltimore is fortunate in the absence of big tenement houses, but, like it, too, it has the disadvantage of a large number of very narrow streets and alleys. There is no drainage system, the sewerage is collected into cesspools, while the surface water and the water from the kitchens runs off on surface drains. There is a very large foreign population and a large number of colored people. While tuberculosis is a very common disease, I do not think the mortality in Baltimore is specially high. In the report of the Board of Health for the year 1901, there were 1,274 deaths from the disease in a total mortality of 10,479, about 12 per cent.

Four years ago two ladies, interested in the disease, gave me a sum of money to use in connection with our work at the Johns Hopkins Hospital. We do not take many cases of tuberculosis into the wards. Last year there were only 53. They come chiefly for the purpose of diagnosis, and we often admit patients from outside the city on purpose to teach them for a period of a week or ten days, just how to regulate their lives. It seemed best to try to do something for our consumptive out-patients, of whom we have an average of about 200 new cases in the year. It seemed to me that a good and useful work could be done by the personal visits of an intelligent woman to the houses of these patients, that she might show them exactly how to carry out the directions of the physician and give them instructions as to the care of the sputum, the preparation of food, and when necessary to report to the Charity Organization as to the need of special diet, or to the Health Board when the surroundings were specially unsanitary. In connection with this an inspection has been made of the condition under which these people live. Of the 726 cases, 545 were whites, and 181 blacks. Among the whites were 53 Russian Jews. There were 492 males, 234 females. The analysis of the reports of Miss Dutcher, Miss Blauvelt and Miss Rosencrantz during the past four years is briefly as follows:

	Russian	Colored	White
Bad sanitary location	62%	53%	16%
Insufficient light and ventilation	71%	65%	39%
Overcrowding	61%	41%	32%
Personal and household uncleanliness	70%	56%	30%

The white population in a large majority of the cases was distributed irregularly throughout the city, but a large proportion live in good loca-

tions, many even on new streets in the suburbs. A small percentage, about 20, live in a bad neighborhood, where the houses are close together and hemmed in in narrow alleys and courts. This region lies chiefly to the south and west of the hospital toward the harbor. In about a third of these people the personal and household cleanliness is fairly good. The colored people make up about a fourth of the cases. They live in much more unfavorable localities, chiefly in narrow, thickly populated and dirty alleys in small, two-story houses, usually old, and the windows often limited to the front—houses in which proper lighting and ventilation are impossible. One important feature in the colored population is the desire always to occupy their own houses, so that there is a comparatively little overcrowding. The Russian Jews form about one-fourteenth of the total number of patients. They live in a neighborhood that was at one time inhabited by the wealthier classes and the houses have now been converted into tenements. The streets are in many cases wide and clean and sunny. The percentage of overcrowding in the rooms is high. Very often a family of seven or eight is found in two rooms. The contrast in the matter of personal and household cleanliness between the Russians and the other whites is most striking. It is exceptional to find the former in a condition, either in person or house, that could be termed in any way cleanly. A very serious thing is the frequency with which the patients move from one place to another. The 726 patients had during their illnesses occupied 935 houses. Last year the percentage of removals was still higher. The 183 patients had occupied 379 houses. Another important point brought out was the fact that fully 66 per cent. of the patients visited did not sleep alone.

Amid such sanitary surroundings the patient can scarcely avoid contaminating the house in which he lives, while, perhaps more important still, the environment, combined with insufficient food, etc., lowers the resistance of the other members of the family and renders them more liable to active disease.

How are we to combat these conditions? *First,* by an educational health campaign in the homes. The young women who have been engaged in this work in Baltimore have frequently reported to me the readiness with which their suggestions have been accepted, particularly in regard to the care of the sputum. To be successful such a campaign must be carried out by the Board of Health, and a staff of trained visitors, women preferably, should do the work. To carry this out effectually there should be, *secondly,* in all cities a compulsory notification of cases. The plan has worked most successfully in New York, and it should be everywhere followed. There are no difficulties which cannot be readily surmounted, and there need be no hardships. *Thirdly,* in most cities the powers of the Health Boards should be greatly enlarged, so as to deal efficiently with the question of proper disinfection of the houses occupied by tuberculous patients. *Fourthly,* the question of the housing of the poor needs attention, particularly in the matter of proper control of tenements, and the regulation, by law, of the number of persons in each house. *Fifthly,* by placing upon the landlord the responsibility of providing, under the control of the Board of Health, a clean, wholesome house for a new tenant. *Sixthly,* the wholesale condemnation of unsanitary streets and blocks, and the rebuilding by the municipality, as has been done in Glasgow and elsewhere. We cannot make people cleanly or virtuous by act of the legislature, at the same time we cannot leave important sanitary details in the hands of irresponsible persons whose view of life is limited to returns and rentals. The extraordinary reduction in the mortality from consumption in the large cities is due directly to an improvement in environment. That much more remains to be done in the way of betterment the facts I have presented fully show.

III.

And then we have to face the all-important fact that at present an immense majority of all tuberculous patients have to be treated at home. Probably not 2 per cent. of the cases can take advantage of sanitarium or climatic treatment. What has the new knowledge to say to the 98 per cent., which is debarred from the enjoyment of these two great *adjutores vitæ?* Very much! Read aright, a message of hope to many. Just as we have learned that climate in itself is not the prime essential, but a method of life in any clime, so we have found that even under the most unfavorable surroundings many cases recover in town and country, if rigid system and routine are enforced. But "Hope, that comes to all," as the poet sings, comes not to the large proportion of the unhappy victims in our overgrown and crowded cities. What but feelings of despair can fill the mind in the contemplation of facts such as I have laid before you in the analysis of our inspection in Baltimore? So numerous are the patients that private beneficence shrinks at a task, which the city and State authorities have not yet mustered courage to attack, except in one or two places. Hospital care for advanced cases, sanitarium treatment for incipient cases can only be provided by an enormous expenditure, but we must not be discouraged, and the good work begun in Massachusetts, New York and in this State will grow and prosper. After all, the campaign in which we are engaged is one of education; only let us not forget that teaching has not all been on the side of the profession. We have all been at school during the past quarter of a century, and at school we must remain, at once teachers and pupils, if we are to make the knowledge we possess effective. We are not living in Utopia, and in the matter of sanitation the man on the street is a blundering, helpless creature whose lessons are put bodily into him at a heavy cost of life and health. You know this story only too well in Philadelphia. To provide accommo-

dation for all consumptives is impossible, but it is not unreasonable to look forward to the day when every large city will have a sanitarium for the treatment of the early cases, situated not far from its outskirts, with all the equipment for open-air treatment. Let there be some place at least where a poor workingman or working woman may have a chance for life. Now, as we doctors know only too well, hundreds are sacrificed in whom the disease could have been arrested. The hospital care of the very sick should be provided for in special wards of the city hospitals. To give the best of care to these unhappy victims is a true charity to them; to place them where they cease to be a danger to the general health is a true charity to others.

In the warfare against tuberculosis the man behind the gun is the general practitioner. The battle cannot be won unless he takes an active, aggressive, accurate part. That he is not always alert must be attributed in part to the carelessness which a routine life readily engenders, and partly to a failure to grasp the situation in individual cases. The two points to be impressed upon him are first, *that early recognition of the disease can only come from better methods of practice and greater attention to the art of diagnosis.* The insidiousness of the onset, the protean modes of advance, and the masked features of even serious cases should never be forgotten. As Garth so well puts it in his Dispensary (1699):

"Whilst meagre *Phthisis* gives a silent blow;
Her *stroaks* are sure; but her advances slow.
No loud alarms, nor fierce assaults are shown,
She starves the *fortress* first, then takes the *town.*"

Too often precious time is wasted and the golden opportunity is lost by the failure of the physician to make a thorough examination of the chest. I am every day impressed with the necessity of more rigid, routine examination, even of the "ordinary case." In illustration of the carelessness which is so readily acquiesced in, let me mention a patient who was brought to me only a few weeks ago, supposed to have a protracted fever after typhoid. Her father, a physician, her husband a physician, and it is scarcely credible that neither of them had the faintest idea that the poor soul had advanced consumption, though it had reached a stage in which there was shrinkage of one side of the chest, and the diagnosis could almost be made by inspection alone. The carelessness is a sort of mental inadvertence, to which even the best of us at times seem liable. A very distinguished and careful physician brought his daughter to me a few years ago to have her blood examined, as he felt sure she had a chronic malaria. She had little or no cough, but an afternoon rise of temperature, and it turned out to be the usual story—quite pronounced local disease at her left apex. There had not been a suspicion on the part of her father or of the family.

On the other hand, we must be careful not to diagnose tuberculosis too readily. The physicians of our sanitaria have a good many tales to tell in this matter.

The second point is the *necessity for a more masterful management of the early cases.* Here comes in that personal equation so important in practice, and which has such a vital bearing in the prognosis of the disease. The dead hand of the Arabian still presses sore upon our practice, and precious weeks are too often lost in trusting to a polypharmacy which in some instances would make the heart of Avicenna or Averroes to rejoice. It may seem hard to say so, but my firm conviction is that more tuberculous patients are injured than helped by drugs. We have not yet come to the belief—to the practical belief, at any rate—that the disease is not to be *treated* by them. After so much has been written and spoken, one would suppose that the essential features of the treatment of the disease were generally recognized, but the practical experience of any man who sees a great deal of tuberculosis is directly to the contrary. It is not so much that the drugs do harm *per se*, but that weeks of priceless value are lost in trying to check a cough and quiet a fever in a patient who is allowed to continue his work and is up and about. I cannot agree with a recent writer who says that the tendency at present is rather to make too little than too much of medicinal treatment. Perhaps in advanced cases we are more sparing, but in early stages *I know* that we are still leaning on the Egyptian reed in which our fathers trusted and trusted in vain. Year by year I see only too many instances in which the mental attitude of the physician toward the disease clearly indicates that the idea of an efficient home treatment by fresh air had never been entertained. What I would like to plead for most earnestly is this home treatment of early cases by modern methods. I am not addressing myself now to city physicians. But I would appeal to the practitioners in the country and in the smaller towns and in the suburbs, where the conditions are so much more favorable. I have been much interested for several years past in a group of cases scattered all over the country, usually in the farmer or mechanic class, in which I have supervised with the physician a home treatment, often with striking success. The remarkable case which I reported in 1900 gave me great encouragement, as the complete arrest of the disease was accomplished under the most primitive surroundings by the persistence and devotion of the patient herself, who richly deserves the good health she enjoys to-day. There have been disappointments; all cases are not suitable, all cases are not curable, and it is not easy to say which ones are likely to do well. The most favorable looking patient with a small patch at one apex may have a progressive disease and die in the best of surroundings, while a case with high fever, sweats and an extensive lesion may improve rapidly. On November 24, a fine, stalwart fellow came to see me, in whom I did not recognize the *poitrinaire*, of September 28, carrying his diagnosis in his

face. The sunshine and open air of a Maryland village had been enough; enough, at any rate, to put him on the high road.

Let me mention in a few words the essentials in this home treatment of consumption in the small towns, country places and the suburbs of our large cities. *First,* the confidence of the patient, since confidence breeds hope; *secondly,* a masterful management on the part of the doctor; *thirdly,* persistence—*benefit is usually a matter of months, complete arrest a matter of years, absolute cure a matter of many years; fourthly,* sunshine by day; fresh air night and day; *fifthly,* rest while there is fever; *sixthly,* breadstuffs and milk, meat and eggs.

Let us not forget that it was a country practitioner, George Bodington, of the little town of Sutton Coldfields, in Warwickshire, who, in 1840, revived the open air treatment of tuberculosis. "To live in and breathe freely the open air, without being deterred by the wind or weather, is one important and essential remedy in arresting its progress—one about which there appears to have generally prevailed a groundless alarm lest the consumptive should take cold." And he gives a number of cases showing the good effects of the open air treatment. He seems to have carried it out on the plan which was so strongly advocated by Sydenham, which was a combination of open air and riding or carriage exercise. There are few things more striking in the writings of Sydenham than the insistence with which he states that consumption is curable. It is worth quoting a paragraph which I take from Locke's Anecdota Sydenhamiana, as it is put in a more striking way than in his general work. "I am sure that if any physician had a remedy for the cure of a phthisis of equal force with this of riding he might easily get what wealth he pleased: In a word, I have put very many upon this exercise in order to the cure of consumptions, and I can truly say I have missed the cure of very few; in so much that I think how fatal soever this disease be above all others, and how common soever; (for almost two-thirds that die of chronical diseases die of a phthisis), yet it is this way more certainly cured than most diseases of less moment: Provided always that this travelling be long persisted in according to the age of the patient, and length of the disease. . . . Women or very weak men that cannot ride on horseback may ride in a coach and yet attain the same end, as I have seen by often experience." In reality this practice of Sydenham never died out, but it was in practice in New England in the early days and throughout the eighteenth century. The late Henry I. Bowditch, who did so much to further the study of tuberculosis in this country, states that he followed it in his own case.

Let me conclude with a quotation from De Quincy, which puts in graphic language the question which so many generations have asked and asked in vain, but which we have been permitted to answer in part at any rate, and to answer in hope. "If you walk through a forest at certain seasons, you will see what is called a *blaze* of white paint upon certain *élite* of the trees marked out by the forester as ripe for the axe. Such a blaze, if the shadowy world could reveal its futurities, would be seen everywhere distributing its secret badges of cognizance amongst our youthful men and women. Of those that, in the expression of Pericles, constitute the vernal section of our population, what a multitudinous crowd would be seen to wear upon their foreheads the same sad ghastly blaze, or some equivalent symbol of dedication to an early grave. How appalling in its amount is this annual slaughter among those that should by birthright be specially the children of hope, and levied impartially from every rank of society! Is the income-tax or the poor-rate, faithful as each is to its regulating time-tables, paid by *any* class with as much punctuality as this premature *florilegium,* this gathering and rendering up of blighted blossoms by *all* classes? Then comes the startling question—that pierces the breaking hearts of so many thousand afflicted relatives: "Is there no remedy? Is there no palliation of the evil?" It is one of the greatest triumphs of scientific medicine to be able to reply, Yes, the evil may be palliated and is rapidly being lessened, and for many at least, a remedy has been found.

ORIGINAL ARTICLES.

SYPHILIS AND DIVORCE.

BY PRINCE A. MORROW, M.D.,
OF NEW YORK.

THE relations of syphilis with marriage have a legal as well as a medical aspect. The introduction of syphilis into marriage entails not only physical damage to the health and life of the wife and children, but it involves a question of legal responsibility; divorce as well as disease may play a rôle in the domestic tragedy. The communication of syphilis in married life by one partner to the other, or even the exposure of one partner to contagion from the disease may affect (1) contracts to marry, (2) annulment of the union, and (3) divorce.

The ideas of most medical men as to the legal consequences of the existence or communication of venereal disease in the marriage relation are vague and incomplete; yet it is of the utmost importance that the physician should have an understanding of the law of marriage and divorce as applied to these diseases. In his efforts to persuade a syphilitic man to defer his marriage until it is safe, the physician should, if necessary, hold out as a threat the legal consequences incurred in transmitting his disease to his wife. This is not only a valid, but in many cases may be a sufficient argument in dissuading him against contracting a premature marriage. Then, again, the physician may be consulted by a married woman who has been infected by her husband and who confides to him her griefs, and at the same time her

determination to no longer live with a man who has done her this grave injury. In order that the physician may advise intelligently in a situation of this kind, he should be familiar with that branch of judicial law which relates to syphilis and divorce. He should know what the law accepts as good ground for divorce, what must be the concurrent conditions of its intervention, as well as the attendant disadvantages to the complainant which are inseparable from a suit for divorce in which syphilis is pleaded as a cause of action.

In many cases of marital infection rupture of the marriage occurs without an appeal to the law. The woman, on receiving proof of her husband's infidelity in the shape of venereal disease, abruptly leaves the conjugal bed and returns to the paternal roof. In other cases there is an effective separation between the husband and wife while the outward appearances of the marriage relation are still preserved.

We may now inquire what redress the law affords a woman who has been infected by her husband with syphilis in the marriage relation.

In the first place, it is to be observed that the mere existence of venereal disease in one partner, or even its communication to the other, does not *per se* constitute sufficient ground for divorce. There must be certain concurrent conditions of an aggravating character presently to be considered.

It is to be noted that in no civil code is venereal disease specifically mentioned as a statutory ground for divorce, nor is there any penalty laid down for its transmission. The word "syphilis" nowhere appears upon the statute books of this or any other country. The nearest approach to it is in the civil code of Kentucky, in which it is stated that the contraction of a loathsome disease by one of the spouses is a specific ground for divorce, and it has been held that venereal disease is included under the term "loathsome disease."

The absence of any specific legislation in the matter of the transmission of syphilis may at first sight appear to the medical man as evidence of the failure of the law to recognize the grave physical injury which may result from the communication of this disease. The wisdom of the law is, it is claimed, shown in the laying down of certain general principles, the application of which is left to the judgment of the court according to the circumstances of the particular case. If syphilis always bore the stamp of immorality; if it were exclusively contracted by impure intercourse before marriage or through adulterous relations after marriage, there would be some grounds for this criticism, but, as is well known, syphilis is not necessarily a venereal disease; it may be contracted accidentally through various professional and industrial relations, and it may be innocently communicated by one partner to the other in marriage. If the code specifically decreed that one partner might demand a divorce because of syphilis communicated by the other, the strict construction of the law might work great injustice, as, for example, in the numerous cases recorded where a nurse has acquired the disease from a syphilitic nursling, and has communicated it to her husband. In such cases the woman may be entirely ignorant of the nature of her disease, and cannot be held either morally or legally responsible. In cases of *unconscious syphilis* the responsibility of the conjoint who gives the syphilis is legally as well as morally attenuated.

Fournier reports the case of a physician who presented a chancre of the tonsil after having put in his mouth a paper cutter, which he had previously used as a tongue depressor in examining the throat of a patient; the nature of the chancre was not recognized, and he communicated syphilis to his wife. The law cannot foresee or provide against these possible contingencies, and it perhaps wisely includes the offence under some general rather than under a specific statute.

In order to give a clear understanding of the legal relations of syphilis with marriage, the writer has endeavored to present a digest of the decisions in some of the more important cases which have come before the courts for adjudication, from which deductions may be drawn as to the spirit of the law and the general rule or practice in dealing with cases of this character.

For the citation of cases and rulings which have come before the courts in this country the writer is indebted to a paper in a recent number of the *American Law Review* by C. F. Huberich, of the University of Texas, on "Venereal Disease in the Law of Marriage and Divorce," and to the admirable monograph of Thibierge on *Syphilis et Deontologie*, for a knowledge of the present position of jurisprudence in France in relation to syphilis and divorce.

While the principles which underlie the decisions made by different tribunals are practically the same, the rulings are not uniform and appear to be somewhat contradictory. This is not surprising in view of the varying circumstances and accessory conditions which attend the transmission of venereal disease in the marriage relation. Some of these circumstances are held to aggravate, others to mitigate the responsibility of the offender, and they must all be taken into consideration and given due weight in arriving at a decision. Special cognizance is always taken of that cardinal principle of equity which guides the administration of justice in all actions involving civil or criminal responsibility—*viz.*, whether the act charged has been committed ***knowingly and wilfully.***

While syphilis is not specifically mentioned as a cause for divorce in the statute books, actions for divorce may be instituted upon the ground of "cruelty," as it is generally held by the American and English courts that the communication of this disease constitutes cruelty, which is a statutory ground for divorce. The French courts provide that one partner may demand divorce from the other on the ground of "grave injury,"

and, since the communication of syphilis in marriage is held to be a grave injury, proceedings for divorce are usually instituted upon this ground or upon the ground of infidelity. The civil codes of almost all civilized countries recognize infidelity as sufficient ground for divorce, and, if this charge can be proven, the graver injury of syphilitic infection is usually passed over in silence.

Contract to Marry.—The existence of venereal disease in either party to a contract to marry is sufficient ground for the other party to refuse to fulfil the engagement, and therefore constitutes a valid defence in a breach-of-promise suit. Although this point has not been judicially determined in England, it has been laid down as a general rule that if the condition of the parties was changed after the making of the contract it was good ground for either to break off the engagement.

Few actions have been brought for breach of promise in which this defence was set up, as an indication of the line of defence would be quite sufficient to induce any respectable or self-respecting woman to discontinue the suit. Still, such cases have come before the courts in this country for adjudication where the defendant in a breach-of-promise suit refused to perform the contract on account of the existence of a venereal disease in himself.

The rule of the law as given by Huberich is that where a venereal disease is contracted prior to, but was not known to exist at the time the contract to marry was entered into, or when such disease is contracted subsequent to the making of the contract to marry, but through no wrongful act on the part of the defendant, its existence furnishes a good defence for an action of breach of promise. In his ruling in one of the cases just described, the judge states:

"We cannot understand how one can be liable for not fulfilling a contract when the very performance thereof would in itself amount to a very grave crime not only against the individual, but against society itself. . . . The law will constrain no man to assume a position so full of peril as to place within his reach the lawful means of gratifying a powerful passion at the risk of another's health or life, and the possibility of bringing into the world children in whose constitution the seeds of a father's sin shall lurk."

As a Ground for Annulment.—The existence of a venereal disease in either party at the time of the marriage may render the marriage voidable. The annulment of the union in such cases would seem to be based upon the rule of the law which recognizes permanent and incurable impotency sufficient ground for divorce. In one of the cases the ruling was, that "while there was no such malformation which renders complete sexual intercourse impossible, there was a physical reason that rendered her (the defendant) incapable of healthy coition. Every such act, by reason of her physical condition, was attended with great danger of communicating to him incurable disease and endangering his health and life. . . . In the case at bar the petitionee's organs of generation were at the time of marriage in an incurably diseased condition, which, while it did not physically render her incapable of copulation or of bringing into life a child a mass of syphilitic sores, as good as dead when born, yet it did render copulation and procreation on the part of the petitioner impracticable, because the act endangered both his health and life."

In a noted New Jersey case the marriage was annulled on the ground of "fraud." The man had syphilis, although he had assured his intended that he had never had venereal disease. Upon discovering his deception she brought suit for the annulment of the marriage.

The court held that "to annul a marriage for a fraudulent representation inducing the contract it must be shown that the fraud affected an essential of the marriage. An explicit statement by a man about to be married that he was not affected by the loathsome disease called syphilis, made when it was his duty to state the truth, and knowingly false, is such a fraudulent representation as affects an essential of the marriage relation."

"The decree cannot be had upon the uncorroborated evidence of the complainant. The contract of marriage is one of exceptional and peculiar character. On the grounds of public policy the State has an interest in the status created by a marriage contract, and when made it can only be dissolved on grounds and by judicial proceedings sanctioned by law."

In the above case it was proven by the testimony of the physician who had treated him that the man had syphilis and was informed of the nature of his disease.

In another case, in which an action for the annulment of marriage brought by the wife on the ground that the defendant was constitutionally affected with syphilis, and where he had knowledge of his condition at the time he entered marriage, but failed to inform plaintiff of the fact, and she, immediately upon learning of it, and before the marriage was consummated, left him and refused to live with him as his wife, it was held that "his concealed disease was such as would leave with him no foundation upon which the marriage relation could properly rest; that the libellant could not live with him as his wife without making a victim of herself for life and giving to her offspring, if she had any, an inheritance of disease and suffering. Few, if any, would be bold enough to say that it was the duty of the libellant on discovery of the fraud before consummation of the marriage, to give herself up as a sacrifice and to become a party to the transmission of such a disease to her posterity."

In another case annulment was decreed, although the parties had continued to cohabit after the nature of the defendant's disease became known to the plaintiff. It was expressly held that such continuance of cohabitation could not be regarded as a condonation.

Divorce.—"To constitute a ground of cruelty it is usually required that the disease should have

been actually communicated to the complainant; that the complainant should have been ignorant of the existence or nature of the plaintiff's disease at the time of its communication, and that the defendant should have infected the petitioner knowingly and wilfully. If all these facts concur, no question of the propriety of granting the divorce can arise unless there are facts showing condonation of the offense" (Huberich).

The weight of authority is that the disease must be actually communicated.

Dr. Lushington rules as follows: "However great the moral delinquency of consummating a marriage with the probable chance of communicating the venereal infection, I am not prepared to say that so doing constitutes legally an act of cruelty as understood in these courts. In order to constitute an act of legal cruelty there must be, in my opinion, an actual communication of the disease, and the running of the risk is not sufficient."

Lord Stowell held that "attempted intercourse with the complainant when the defendant was afflicted with a contagious disease would suffice to sustain a charge of cruelty."

In still another decision it was held that "a reasonable apprehension of injury is sufficient, and the complainant need not wait until the wrongful act is committed."

Justice Key, in a case before the Texas Court of Appeals, states: "A man may, as a result of his own debauchery, become so diseased as that living and cohabiting with him will probably destroy the health of his wife, and we are not prepared to say that such fact would not, of itself, entitle a pure and innocent woman to a divorce, in the absence of specific proof that he had communicated to her a loathsome venereal disease."

In the courts of this country stress is laid upon ignorance of the existence or nature of the disease on the part of the complainant. In one case in which the wife was informed of the disease of her husband and of its contagious nature, but continued for a year and down to the last moment of their living together to submit willingly to his embraces, she was denied a divorce.

On the contrary, where the complainant is ignorant of the nature of the plaintiff's disease, no case of waiver or condonation arises. A divorce was granted in a case where the husband had communicated syphilis to his wife, but had ascribed her syphilitic sore-throat to drinking from an infected vessel, and continued marital relations with her.

In the French courts no stress is apparently laid upon this point, as it is hardly to be assumed that a woman would marry a man knowing him to be syphilitic or permit a consummation of the marriage unless through violence.

The French tribunals "consider the transmission of syphilis in marriage a grave injury and a cause of separation, whether the husband had been attacked before or after marriage, and attach the same gravity to the simple fact of exposing the conjoint to the contraction of this malady when the husband knows he had been attacked and recognized its contagious nature."

In all courts of law especial stress is laid upon the knowing and wilful communication of the disease. The defendant must know that he had an infectious disease and that it was attended with danger of infecting the other party, and it is a question for the courts to decide whether the defendant's statements upon this point are entitled to credence. Also when the defendant believes himself cured at the time when the infection is alleged to have taken place, he is not guilty of cruelty.

The Texas Court of Appeals held that lack of knowledge on the part of the defendant as to his condition merely renders his conduct less culpable.

It has been held that "the mere fact that the husband has communicated disease to his wife, whatever may be thought of it in other points of view, is not enough to constitute legal cruelty. It is abundantly clear that for this purpose the act must be a wilful one. Wilfulness may, however, be generally inferred from the fact of communication coupled with the knowledge on the part of the defendant of the existence of the disease in himself." It is to be understood that wilfulness does not imply a wish or intent to injure.

"If a man, knowing that he was suffering from a complaint of that sort, had intercourse with his wife and did communicate it to her, even although he were to swear, and you were to believe him, that he did not mean to communicate it, I doubt whether you ought not to say that he had been guilty of cruelty. If he knew that his body was tainted and that he might communicate the disease; if he knew that he was running the risk of giving his wife the complaint from which he was suffering, and he did give it to her, I am disposed to think that it would be an act of cruelty." "Whoever does an act likely to produce injury, and injury follows, can never excuse himself by saying that he hoped a probable consequence might, by some good fortune, not follow."

A long series of decisions of the French courts might be quoted establishing the fact that syphilis is a cause for divorce, at least in a case where the disease has been knowingly communicated. The fact that the husband had before marriage a venereal malady and communicated it knowingly to his wife, represents to her alone an injury of sufficient gravity to justify divorce. On the other hand, it has been decided that a wife cannot demand divorce for having been infected with a venereal disease when it is not established that it had been knowingly communicated by her husband. Also that the communication of syphilitic disease to the wife by the husband is not a cause for *separation de corps* when at the moment of his marriage he believes himself cured and that the communication of his disease had been involuntary.

The French courts attach an especial importance as to whether the disease of the husband was contracted posterior to marriage on the general principle that the acts of the spouse anterior

to marriage cannot in principle serve as a basis for an action for divorce. Exception to this principle has been made, however, in certain decisions in cases of transmission of syphilis.

It will be seen that the "concurrent conditions" upon which decisions are based are practically the same in all courts of justice. There are certain circumstances, however, which are held to aggravate or attenuate the charge of cruelty or grave injury. The French tribunals admit different degrees of responsibility in persons introducing syphilis into marriage.

First, it has been held as an aggravating circumstance that the disease has been communicated soon after marriage or in the first approaches.

Second, if the husband has transmitted the disease in conjugal relations imposed by marriage.

It has been held by an English court that an attempted intercourse, the husband forcing his wife to his bed, when he was afflicted with venereal disease, would suffice to constitute a charge of cruelty, although the disease was not actually communicated. It is also regarded as an aggravating circumstance when there is reason to believe that an infant conceived as a result of these relations will be born tainted with the disease.

The responsibility of the husband is increased when he has made no attempt to repair the damage to his wife's health by securing proper medical treatment, and especially when he has placed obstacles in her way of obtaining proper treatment, or sacrificed the care of her health to "false shame." On the other hand, it is regarded as a mitigating circumstance if the husband has promptly employed every means to secure proper and efficient treatment.

It would seem that the gravity of the accidents or the more or less severe results of the infection to the wife is not held by the courts as affecting the responsibility of the husband, as there is no question of damages or penal responsibility.

From this survey of the jurisprudence of syphilis and divorce it appears that when a woman has been infected with syphilis by her husband the law may grant her a divorce on the statutory ground of cruelty or infidelity. In the State of New York, where "infidelity" is recognized as the sole ground for divorce, the charge of cruelty could not be pleaded.

Under the present conditions of the law the physician should advise his patient that syphilis should never be invoked as a cause of action for divorce unless it constitutes the chief or only phase of cruelty that can be alleged. The charge of infidelity, if it can be sustained, should always be the preferential plea. Infidelity on the part of the husband is in no sense a reflection upon his wife. The guilt, as well as the dishonor, rests upon the husband. The syphilis should be hidden, as it is not necessary to play this incriminating card. It does not affect the result, and when brought forward is ignored by the jurist. If the fact is pleaded and established in the public courts that a woman has been made the recipient of a loathsome disease which is regarded as incurable and transmissible to her children, even if she is successful in gaining her suit, she must be branded as the bearer of a shameful disease, and her children, if she have any, must bear through life the stigma of syphilis.

The woman who seeks a divorce upon the plea of syphilitic infection by her husband should be fully informed of the ordeal before her. In the first place, it is necessary to furnish legal proof. While the existence of syphilis in the wife may appear as *prima facie* evidence that she has received it from her husband, it is by no means conclusive to the courts. She must prove (1) that her husband has syphilis; (2) that she has syphilis; (3) that the syphilis of the husband is the origin of her own. She must reveal certain secrets of private life, often disgusting details of shameful indignities to her person; she must be prepared to face the inevitable scandal, the disgrace and publicity of divorce proceedings; she must appear in court or before a referee and testify to humiliating experiences, which are not always carefully guarded from the public. If her husband defends the suit he may falsely plead as a mitigating circumstance that he thought he was cured, did not know his disease was contagious, that the contagion was involuntary, etc. Even if successful, she will find that she has purchased her freedom at the price of humiliation and shame. The only punishment imposed upon the guilty perpetrator of the wrong is that he is denied the further privilege of dishonoring his wife's body. No wonder that many women, seeing no way of escape open, and realizing that the harm is done and cannot be undone, accept their fate and philosophically make the best of it.

Still, there are many cases of marital infection of such aggravating character that the self-respecting wife finds her situation simply intolerable and not to be endured. She feels that she must escape at any cost from the bonds that bind her to a man by whom she has been dishonored and diseased.

As the law now stands there is no civil or penal responsibility imposed upon the husband for the transmission of syphilis in the marriage relation. In addition, there are so many concurrent conditions to be complied with, so many loopholes of escape for the guilty partner from the elastic interpretation of what constitutes "knowing and wilful" communication, so many extenuating circumstances that may be pleaded, such as "I did not know I had the disease;" "I thought I was cured," etc., that the existing laws do not constitute a sufficient protection. The question of the practical wisdom of a specific statute penalizing the transmission of venereal disease in marriage will be elswhere considered.*

In regard to the physician's line of conduct in the matter of syphilis and divorce, it is rarely advisable that he should appear in the interests of his patient. The proof of the communication of

* Social Diseases and Marriage, now in press.

the disease can be furnished by a medical expert appointed by the court for the purpose of making an investigation. If the physician has treated the wife, his prescriptions are always available in furnishing presumptive proof, at least, of the nature of the disease for which he has treated her. Especially should the attending physician not give a letter or certificate that she has syphilis and that he is treating her for it. In the first place, he may be the physician of both hsuband and wife, and should he give a certificate it would betray the secret the husband confided in him. In the second place, certificates of this character are looked upon with suspicion, and have even been rejected by the courts.

SOME PRACTICAL SUGGESTIONS ON PHYSICAL EDUCATION IN THE PUBLIC SCHOOLS.

BY RICHARD COLE NEWTON, M.D.,
MONTCLAIR, N. J.

AT the last meeting of the American Academy of Medicine, Hon. William T. Harris, U. S. Commissioner of Education, called attention to the present desultory and often injurious methods of teaching and practising gymnastics in the public schools; laying particular stress upon the fact that from a lack of proper medical knowledge on the part of the instructors, the pupils were liable to injury instead of benefit from these exercises.

The import of his remarks was that only from the medical profession can a remedy for this and other evils in the present system, or perhaps, I should say want of system, in the physical education of children, be expected.

An editorial in *American Medicine* (March 7, 1903) is so apposite that I cannot refrain from quoting from it: "As vigorous health and its accompanying high spirits are larger elements of happiness than any other things whatsoever, the teaching how to maintain them is a teaching that should yield in moment to none other whatever." Taking these famous words of Herbert Spencer's as a text, our editor proceeds to preach an excellent and pithy sermon on the physical education of the young. He says among other things, "It is not desirable to produce athletes, physical culture fanatics or practitioners of new-fangled and erratic 'systems' and 'pathies,' what is needed is simple instruction in the proper care and use of the body," . . . "and we strongly urge more literature and personal explanation from the American medical profession. The subject is much too important to be left entirely in the hands of lay teachers and writers." There is no question about the truth and reasonableness of these remarks, but they do not go far enough. Essays on education are of no use to a child of four, nor does a knowledge of physiology give one a good digestion; what I have tried to point out elsewhere,* and what a recent editorial writer in the *Lancet* demands is, that physical education should be practically applied and should be made not alone commensurate with mental education, but preliminary to it. At least educational systems should be so arranged that scholars who are unfit physically, or who are begining to show any evidence of physical breakdown from mental overwork, should be turned over to the doctor, who shall have the power to modify or even suspend all mental work until the bodily condition can be brought up to the standard average for the age of the particular child. Mental injury to the growing child is so insidious in its inception, and may be so long battled against with more or less success by the ambitious and painstaking scholar, that as a rule, the teacher will utterly fail to detect it, until irreparable damage shall have been done. Hence it is indispensable that the doctor should have a controlling voice in the education of young children. It is not perhaps necessary to enlarge on the theoretical aspect of this question; I can only say that the practical unanimity among educators in the opinion that some working rules must be formulated, for the promotion and preservation of the health of scholars is a convincing proof of the necessity for such rules. Many, if not all, of the teachers are looking to us for help. In the first place then, I would lay down as rule number one, that no scholar should be admitted to the regular course in the public schools under seven years of age, eight would be better. The "eminent physiologist" quoted by Spencer, who asserted that eight years of age is as young as study in school should begin, was unquestionably right, and, so far as I know, this assertion has never been gainsaid by any scientific man. It is true that the public schools demand our children at three and a half or four for the kindergarten, and at five many of them begin the regular graded course. This is at least two years too young, and is often the foundation of the nervousness and mental breakdown of after years. Quoting Spencer again, "There is a given order in which and a given rate at which the faculties unfold, if the course of study conforms itself to that order and that rate, well . . . Nature is a strict accountant . . . If you will let her follow her own course, taking care to supply in right quantities and kinds the raw materials of bodily and mental growth required at each age, she will eventually produce an individual more or less evenly developed." And that is what the ideal education is, an even development of one's powers, moral, mental and physical. Having now started the child in the public school at the age of seven, or eight, medical supervision of him should never cease until he graduates at, say eighteen. A number of educators have told me that at least ten per cent. of all the scholars in American public schools are defectives either mentally, or physically. These can only be separated and properly classified by a competent medical examiner. A large percentage of these are probably suffering from faucial adenoids, others from defective eye-

* Deep Breathing. New York Medical Journal and Philadelphia Medical Journal, Nov. 7, 1903; Why Is Modern School Life Especially Disastrous to Girls? Medical Record, Sept. 6, 1902; The Doctor and the School Teacher. Medical Record, Oct. 18, 1902.

sight, others are deaf, others are rickety, etc. None of these conditions are hopeless. And judicious advice and treatment at the proper time might be of inestimable advantage to the unfortunate scholar, and might save permanent injury and perhaps a lifetime of suffering.

I have purposely omitted contagious diseases from the above partial list, because the necessity of medical inspection of schools to detect and segregate cases of trachoma, ringworm, scabies, syphilis, and so on, and the whole list of exanthemata with diphtheria and pertussis, is now generally acknowledged, and in many cases at least, health boards have succeeeded in having inspectors appointed, who shall visit the schools daily or as often as possible, for the purpose of discovering and isolating cases of contagious disease.

The medical inspection, however, should not cease at this point, but should extend to the examination and record of the physical condition of every scholar, the age, height, weight and lung capacity, and the condition of the teeth, eyes, ears, method of breathing, whether oral or nasal, etc., should be observed and recorded and a copy of the record should in every case be sent to the parents and to the family medical adviser. At least once in three months, this examination should be repeated and the results carefully recorded and compared with the record of three months before and these reports should go to the parents just as regularly and faithfully as the reports of scholarship. The work already done in the Boston and Chicago schools is most valuable and promises excellent results. The tables of height and weight of scholars at different ages so carefully worked out by Dr. Christopher, of Chicago, canot fail to be a valuable guide to medical inspectors of schools.

I might call attention to the early discovery and probable rectification of scoliosis by this method. It has been asserted that four out of five educated women have more or less scoliosis. Whether this is true or not, the percentage of sufferers from this deformity is needlessly large, and could be, to a great extent, prevented by such a system of medical inspection of schools as I have outlined.

How shall we provide for this general school inspection, and how shall competent medical men be induced to give up sufficient time and thought to the proper execution of these duties? This is an extremely difficult question. Perhaps the suggestion of Dr. Cook, made in his address as chairman of the Section of Diseases of Children at the last meeting of the American Medical Association, is as good a one as we can adopt, viz., that in each State a commission of five members be appointed, at least two of whom shall be physicians, this commission shall have jurisdiction over all questions of physical education and child labor. The members of this commission shall be appointed by the judges of the Supreme Court of the State. The said commission shall appoint inspectors, who shall see that all laws relating to the public schools and to child labor are properly executed and shall report regularly on all hygienic matters connected with the public schools and public education, as well as make the reports now required by law in many States as to the hygienic condition of factories, etc. The appointment of the commissioners by the judges of the highest State court, Dr. Cook esteems an especially valuable feature, as it will probably forever remove the questions of child labor and the execution of the truant laws, etc., from the domain of petty politics, and vicious contract labor.

It seems odd by the way, that we pass laws to prevent the poor man from sending his child to work too young, while we sacrifice the health and wellbeing of our own children by an injudicious and often improperly administered system of public school education.

An attempt more or less efficient is made in many public schools to give physical instruction regularly, but so far as I am aware, no competent physician oversees and controls this instruction. The poor children are liable to be made and often are made the victims of some ill-advised or poorly worked out theory or fad. Furthermore, no medical supervisor, as a rule, watches the children at the time of their exercises, who is competent to decide whether any of them are being injured by the exercises. Cases of congenital heart disease, emphysema, diabetes, Menière's disease, etc., may be found among the scholars. They must be separated and treated as each individual case requires, and there is no way of detecting and classifying all of these diseased conditions in the public schools, except by the regularly recurring medical examination and record of every single pupil, as outlined above. With the large present outlay of money in the public schools,* the hiring of a competent medical man for each 1,000 or 2,000 pupils can easily be borne, especially if the often repeated advice to simplify the courses of study be carried out.

So that a number of teachers of the ornamental and superfluous branches may be dispensed with and the money now used for their salaries may be spent in hiring the necessary medical inspectors and buying more apparatus, etc., by this means the scholars may have more systematic and efficient physical instruction. The time is ripe for action and any good, practical plan which shall modify the present indiscriminate and often injurious educational methods, both mental and physical, will meet with the approval of (1) the children, (2) the parents, (3) the profession, and lastly, as I know from interviews with many friends among them, from the conscientious overworked teachers. If the latter can shift the responsibility of the care of the health and physical development of the scholars to the shoulders of our profession, where it unquestionably belongs, it will considerably lighten the burdens and anxieties of

* According to the last report of the Commissioner of Education, the United States spent for the school year 1900-'01 $222,043,236 on elementary education.

an overworked and underpaid and frequently unappreciated class in the community.

The duty of the medical profession is plain and there can be no question that the advanced educators will unite with us in any well-considered and practical scheme for conserving the health of the scholars by first forestalling injury from any preventable cause, and secondly, by instituting and maintaining an efficient system of physical education.

REPORT OF CASES WITH EXHIBITION OF SPECIMENS DIAGNOSED BY THE CYSTOSCOPE.

BY JOHN R. WATHEN, A.B., M.D.,
OF LOUISVILLE, KY.;
PROFESSOR OF SURGERY IN KENTUCKY SCHOOL OF MEDICINE; SURGEON TO ST. ANTHONY'S HOSPITAL, LOUISVILLE CITY HOSPITAL AND KENTUCKY SCHOOL OF MEDICINE HOSPITAL, LOUISVILLE, KENTUCKY

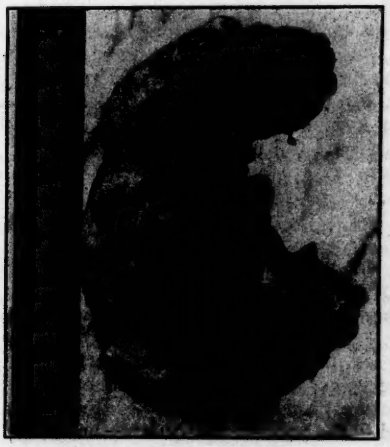
THE importance of careful examination of the bladder, accompanied by catheterization of the ureters, with the electric cystoscope in all doubtful or stubborn cases, is too well appreciated to need emphasis before this Society. The following brief report of a few cases, on account of certain features of interest, are taken from a list of 126 bladder cases, examined for diagnosis, and will illustrate the importance of this method of diagnosis:

Case I.—Miss B., aged twenty-four years. Referred by Dr. Hall. Examined and operated upon at St. Anthony's Hospital. Patient had complained of severe cystitis for about 2½ years; had bladder irrigated repeatedly with antiseptics, and had taken much urotropin and salol, with little benefit. Upon examination with the cystoscope, I discovered a calculus as large as a hen's egg, and through its center, imbedded in the calculus, was a hairpin. This settled the diagnosis, and upon questioning the patient, she admitted for the first time that she had had considerable irritability of the urethra from early childhood, and had often relieved the irritation by using the hairpin, until it slipped into the bladder. The patient was anesthetized, and the urethra dilated until I could introduce a large forceps and crush the stone. I then introduced a large Kelly endoscope, and by means of reflected light removed the pin and the pieces of the calculus. I then thoroughly irrigated the bladder to remove every particle of stone, and finally dilated the bladder with water, and examined with the Nitze cystoscope to see if I had overlooked any pieces. The patient was placed on urinary antiseptics, and within one week left the hospital entirely cured.

Specimen of Case I.

Case II.—Mrs. K., aged sixty years. Consultation with Dr. Speidel at patient's home. She had complained of frequent hemorrhages from the bladder for over a year. Upon examination with the cystoscope I discovered a large bald tumor on the posterior wall of the bladder. This tumor would bleed when touched with the beak of the cystoscope. Considering the size and type of the tumor, I did not advise an operation, but injected small quantities of alum water and adrenal solution, with some benefit. About four months later she died. Had we made a diagnosis earlier, the growth could probably have been successfully removed.

Case III.—Mrs. P., aged forty years. Patient seen during my service at Louisville City Hospital. Complained of chronic cystitis of several months' standing. Examined bladder carefully with the cystoscope, and found pus coming from the ureter on right side, with clear urine on left side. No need for a catheterization of ureters, as the pus was thick, and easily seen on the right side. This evidence caused me to examine in the region of the kidney on the affected side, and I discovered a large tumor. Patient was later anesthetized and laparotomy performed. The large hydropyonephrotic kidney had dissected up the mesocolon, and by making an incision in the outer



Specimen of Case III.

side of the ascending colon, I was able to reach the kidney. This organ I walled off from the other structures with gauze, and carefully removed the fluid contents of the kidney and its partially occluded pelvis by aspiration. I then with ease removed the contracted kidney, and as much of the sacculated and strictured ureter as possible. No stones were found either in the kidney, pelvis or ureter. The other kidney was normal in appearance. The patient did well for about a week, and then died from suppression of urine. I believe this patient would have been saved if diagnosed earlier.

Case IV.—Miss H., aged twenty-seven years. Patient seen during my service at Louisville City Hospital. Complained of chronic cystitis. Examined with cystoscope and discovered a large silk ligature imbedded in bladder-wall, on left side, above orifice of ureter. This I removed through a Kelly endoscopic tube, and in a short while the cystitis disappeared. The patient gave a previous history of having been operated on for ovarian tumor on the left side.

Case V.—Mrs. C., aged thirty-five years. Patient seen in consultation with Dr. W. H. Wathen at St. Joseph's Infirmary. She had complained of a chronic cystitis and pain on one side for about a year, and the diagnosis by her general practitioner was tuberculosis of the kidney. Upon examination with the cystoscope, the bladder-wall was found pushed over to one side, and a small sinus discharging pus into the bladder, clearly demonstrating a pelvic abscess, which with bimanual examination was difficult to diagnose or locate. Operation per vaginam confirmed the diagnosis, and a large quantity of pus was evacuated from a pus sac or cavity situated high up in the pelvis. After this the patient made a nice recovery.

Conclusions.—These few selected cases illustrate the necessity for more thorough and accurate methods of diagnosis in this important field of work. Of my 126 cases examined with the cystoscope on account of obscure diagnosis, I catheterized the ureters in 23 cases, failed to do so for various complications in 12 others, and for the remaining 91 I did not need to catheterize to make a diagnosis.

HYSTERIA.

BY WILLIAM B. YOUNG, A.M., M.D.,

OF BON AIR, TENN.;

PRESIDENT MIDDLE TENNESSEE MEDICAL SOCIETY; EX-PRESIDENT UPPER CUMBERLAND MEDICAL SOCIETY.

IF Egyptologists have correctly translated hieroglyphics, hysteria existed among the people of the most ancient civilization. From this early period to the present the affection has been known under various names—trances, visions, vapors, hysterics, hyppoes and numerous Latin synonyms, most of which "have reference to the supposed uterine origin of the disease." The name hysteria comes from a Greek word that means uterus. The term is quite significant of the belief our forefathers in medicine had in regard to the seat of the disease.

I shall not bore you with the symptomatology, diagnosis and prognosis of hysteria. They are too well known, even by the medical student, to justify a repetition in a paper of this kind. My remarks will be devoted entirely to the etiology, pathology and treatment—three very "uncertain quantities."

We all know that the true etiology has never been discovered, or, at least, there is but one point in regard to the primary cause about which all of the authorities agree—that heredity is the most important factor in the production of hysteria. A study of the history of hysterical phenomena and my own observation teaches me that even this "point in common" is not well taken. That heredity plays a part (but a very insignificant one) no informed physician will call in question. There are sufficient evidences occurring in our every-day practice, if we would but observe and ponder over them, to convince any physician, it seems to me, that conscious and unconscious imitation is decidedly the greatest factor in the etiology of hysteria. Take, if you please, the history of medicine and study closely the numerous epidemics and endemics of hysteria. Mills tells us that "no country within the range of medical observation has been entirely free from them. Communities civilized and semicivilized, Christian and Mohammedan, Protestant and Catholic, have had a fair share of the visitations." The visions and trances of the ancients were peculiar forms of hysteria. The "dancing mania" of the Middle Ages, that spread over a good part of Europe, is another singular manifestation of this psychosis. That most wonderful psychic phenomena of history, the Crusades, which Hume says "has ever engaged the curiosity of mankind, as the most signal and most durable monument of human folly that has yet appeared in any age or nation," is but another form of hysteria.

Those religiohysterical disorders, "the jumps, jerks and convulsions" of the good old camp-meeting are strange phenomena which we have all witnessed at the dawn of the twentieth century. How many endemics of convulsions and peculiar hysterical manifestations have been reported from hospitals, orphan homes and the various health resorts, which were produced by the inmates unconsciously imitating the hysterical phenomena of the first victim? Who can contemplate the rapidity with which the dancing mania and the fire of the Crusader spread from town to town, nation to nation and continent to continent, and not believe that unconscious imitation is the most powerful factor in the etiology of hysteria?

It seems to me that alienists, in looking for the primary cause of hysteria, have entirely overlooked the history of the early mental training of the individual. They find most usually that the grandmother, mother or some relative had hysteria, therefore they conclude that it must be hereditary. From a study of the previous life of the

cases coming under my observation, I am convinced that the pernicious training of the psychical element of the patient during infancy and childhood has much more to do with the production of hysteria than heredity.

There are few parents who appreciate the great importance of properly training the unconscious mind of infancy and childhood. Psychologists tells us that this is by far the most critical period of the life of the individual. Dr. Schofield in his late work, "The Unconscious Mind," says: "All around the child lie countless forces, unnoticed and unknown by the parent, while within the child lies a vast receptive capacity, unknown to the parent, and still largely ignored by these psychologists who should be his teachers—the unconscious mind; and it is to the action of these unnoticed forces upon the ignored mind that the child's real early education and character are mainly due." Dr. Waldstein, speaking of the great importance of a proper environment for early childhood, says: "What is often called heredity is simply the expression of a subconscious self, the beginning of which can be traced to early childhood, when the actions of their parents and their example are subconsciously perceived, and by their constant repetition form fundamental impressions."

Herbert Spencer said: "A man resembles far more the company he keeps than that from which he descends." Sir Michael Foster, the great physiologist, in the *British Medical Journal* of August 21, 1897, while speaking of the manner in which physiology deals with the muscular vascular and glandular parts of the body, says: "Nor does she do otherwise when she comes to deal with the nervous tissues. Nay, it is the very prerogative of these nervous tissues that their life is above that of all the other tissues, contingent on environment and susceptibility of education." S. Weir Mitchell says: "There exists in all of us, feebler in age and more potent in childhood, a tendency to automatic and unconscious imitation which is the parent of a good deal of mimicry of disease." Pryor is quoted by Dr. Schofield as saying: "Every look, every word, every movement is without the knowledge of the mother or nurse, suggestive to the child, *i.e.*, they determine his mental representation, and, later, his actions."

When we learn from such noted biologists and from every-day observation the paramount importance of a judicious environment for the receptive plastic mind of infancy and childhood, is it any wonder that the daughter, who is a constant companion of the hysterical mother from birth to advanced girlhood, should breathe in the contagious atmosphere in which she is completely submerged? Is it necessary for us to appeal to heredity for a philosophical reason why hysteria is a disease peculiar to the female? We should not think it strange that some cases of hysteria do not develop until middle age or late in life and thereby attribute it to a "neurosis," a term as indefinite as the diagnosis of eczema by the colored M.D., "a cutaneous affection of the skin." The majority of such cases, if the true history could be known, would reveal the fact that hysterical impressions were left on the unconscious mind of the patient during the receptive period of childhood. These impressions were stored away in the unconscious mind and remained, as it were, inoperative until some potent exciting cause forced them above the plane of consciousnes. As an illustration of this very condition, I call to mind the singular history of a hysterical male patient of mine. He is a laboring man who had always enjoyed good health until he married one of three hysterical sisters, whose mother was also a victim of the same disease. About one year after his marriage he began to have nervous attacks, and soon developed major hysteria. My first impression was that it was a plain case of mimicry. But from a closer investigation I found that this man had been raised by an old maiden aunt who was a confirmed subject of hysteria. So my final solution of the case was that the hysterical impress was made on his unconscious mind during childhood by the constant example of the aunt, but that it remained quiescent until a powerful exciting cause, the hysterical paroxysms of his wife, to whom he was passionately devoted, forced it into an active conscious state.

All of our text-books record the fact that hysteria occurs more frequently among females than males. Some statisticians give the ratio of hysterical men to hysterical women of 1 to 20. Please bear this in mind. I have never seen a satisfactory reason given for the greater frequency of hysteria among females than males. If the majority of the subjects inherit the disease or the diathesis, what prevents the male from enjoying his part of the birthright? I would like to have a philosophical answer to this question. I am convinced that the male and female child inherit the diathesis in the same ratio, other things being equal. Is there any anatomical, physiological or embryological reason why they should not? If so, I hope some gentleman will give it in the discussion.

Why is it "that of hysterical women who have daughters, more than half transmit the disease to one or several of them, and again, that rather more than half of the daughters of the latter also become hysterical?" I believe it is usually due to imitation. The female child is kept almost constantly in the shadow of the hysterical mother. The male child is out with his play-fellows or in company with the father. What power could prevent the young daughter, who is the constant companion of the hysterical mother, from partaking of some of the joys and sorrows, and from unconsciously mimicking the contortions of the mothers' face and other actions while in a hysterical paroxysm? How many young daughters have failed to "get religion" when they heard the joyous hysterical exclamation of that beloved mother as she "came through" at a good old camp-meeting? The child is a creature of imitation like unto its distant relative, the anthropoid ape.

There is a family in our town with four genera-

tions of hysteria living under the same roof; great-grandmother, grandmother, daughter and granddaughter. It would require a superhuman power to prevent the little four-year-old granddaughter from becoming a confirmed subject of hysteria living in her present environment. A few evenings ago I was called to see a member of this family, and while there the grandmother seemed to be very much amused over a remark the granddaughter had made in regard to a slight attack of bronchitis from which she was just recovering. She made the remark innocently and seriously that "she felt very much like her grandmother, so nervous that she could not keep herself still and that she really believed she would die." How amusing to the grandmother! Little did she dream of the import of that remark, that this little girl had, unconsciously to everyone, taken her first lessons in imitating the hysterical phenomena of the grandmother. The unconscious psychic element in this child is receiving a most pernicious training.

All pathologists agree that no organic lesion has been found that accounts for hysteria. Most of the recent writers on the subject seem to be coming to the conclusion, as Dana expresses it, that "hysteria is essentially a psychosis." From the recent discoveries in regard to the physiology of the ductless glands, I believe that the pathology of the disease will be found somewhere in the "adrenal system." The many symptoms of major hysteria that resemble those diseases due to disorders of this body, leads me to believe that the pituitary gland has much to do with hysteria. Observe how closely the symptoms following disease or injury of the body of the sphenoid bone resemble some of those of hysteria. We have in acromegaly not a few symptoms in common with cases of major hysteria—anesthesia, general weakness, wandering pains, impaired vision, edema, polyuria and possibly others.

The treatment of hysteria has been just as unsatisfactory as that of cancer, or any other of the so-called incurable diseases. All of the anodynes, hypnotics, nervines and tonics of the pharmacopœia "have been weighed in the balance and found wanting." Harsh and cruel methods have been tried in vain, and to-day we are as much at sea in regard to the treatment of this vexatious disease as was Hippocrates. For centuries it was supposed to be entirely of uterine origin, as the name would indicate. This theory has been proven to be most absurd. But from the methods in use to-day among numerous general practitioners we would conclude that they still cling to "the faith once delivered by the Saints," the medical Priests of the Dark Ages, that the sexual organs surround a great central battery from which all hysterical currents are discharged. With the old bivalve vaginal speculum and the iodine cotton swab quite a few physicians of the present time are duping the poor women, deluding themselves, and in the end collecting some right handsome bills.

Hysteria is a psychosis and should be treated as such. To be sure, any complication should have attention, but hysteria proper should be treated psychically. It is an ideal disease, and as an eminent physician has said, if "ideal centers can produce ideal diseases, surely the rational cure is to first bring these ideal centers into a healthy condition and then make them the means of curing the ideal disease." The patients must have the very best mental, moral and social management. There should be a proper training of the will powers, by as many different methods as you have patients to treat. You can philosophize with some intelligent subjects as to how they can brace themselves to hold in abeyance the paroxysms, others may be cajoled and flattered, while a few demand the sternest and almost cruel treatment. The character of each individual must be closely studied.

To remove from the public the danger from the pernicious example of hysterical subjects is one of the most difficult problems to be solved by the alienist. How are we to prevent the children of the poor from associating with and imitating a case of hysteria in the family? The disease is found as frequently among the rich as among the poor.

The rich are able to send their afflicted on a sea voyage, to the various health resorts or to any institution that promises relief, but, like our Saviour said, "we have the poor with us always." One case of hysteria often ruins the happiness of the entire family, becomes a burden to a small community, a pest to the physician and a menace to society in general and childhood in particular. How to relieve this situation among the poor is a serious question. The most feasible plan that suggests itself would be to have homes or resorts where they could have all the necessary medical attention and be far removed from all anxious relatives and sympathizing friends, and at the same time their hysterical phenomena would be removed from infants and children. We have epileptic homes and leperous colonies; why not suitable resorts for the hysterical? Hysteria is far more prevalent than epilepsy, and under past methods about as rebellious to treatment. In many respects the life of an epileptic is preferable to that of the hysterical subject. Such afflicted poor certainly appeal most touchingly to the humanitarian and their deplorable condition and the far-reaching evil of their life to the community should be more prominently brought to the notice of philanthropists.

Summary.—1. We must look to the unconscious impressions of infancy and childhood for the etiology of hysteria.

2. The disease primarily is purely a psychosis.

3. The pathology, I believe, will be located in the adrenal system.

4. The treatment for hysteria *per se* should be psychical. Suitable resorts should be erected for properly treating and caring for the afflicted among the poor.

5. By such treatment, I believe, hysteria would soon be on the decrease instead of on the increase, as it has been for years.

ENLARGED BRONCHIAL GLANDS.

BY J. R. CLEMENS,
OF ST. LOUIS.

ENLARGED bronchial glands, as met with in children, are noteworthy for three reasons: (1) Their great frequency; (2) the manner in which they are overlooked or ignored; (3) their potential toward tubercle and hence the danger of neglect.

In 70 consecutive cases in a children's clinic, where the children were brought up for various ailments, in 20 of these enlarged bronchial glands were found by me to be present. Hector Mackenzie, of the Brompton Hospital for Consumption, London, says the lymphatic glands, particularly in the young, have a special liability to infection by tubercle. In 897 cases of tuberculosis in children, which he has collected, the lymphatic glands were affected in 792, or in 88 per cent., rather more than seven-eighths of the whole. In his experience it is common to find caseous bronchial glands in cases of tuberculous meningitis and general miliary tuberculosis and it is certain that tuberculous disease of the lungs may be consecutive to tuberculous disease of the bronchial glands. Osler is equally insistent on the close connection that exists between tuberculous meningitis, miliary tuberculosis, phthisis pulmonalis and the parent seed of tubercle in the enlarged bronchial glands as met with in childhood. Walter Carr says: "In children who have died with tuberculous disease in any part of the body, the bronchial glands are usually affected and as statistics from the post-mortem rooms of the children's hospitals in London prove that fully one-third of the cases show evidence of tuberculosis, it is easy to see how common caseation of these glands must be. Out of 120 autopsies on children presenting tuberculous lesions the writer found caseation of the bronchial glands in 96 (80 per cent.) and a more careful examination of some of the remaining cases would probably have still further increased this number. Some observers state that caseation of the mesenteric is more frequent than of the bronchial glands but this certainly does not conform with the experience of the London Hospitals." I could go on indefinitely quoting equally pertinent extracts from authoritative sources to prove the sovereign importance of the early recognition of enlarged bronchial glands as met with in children, but the above will suffice.

It is strange that in some of the very latest text-books on diseases of children the subject of enlarged bronchial glands is either not touched upon or dismissed airily in a few words under the heading of Sequelæ of Whooping Cough, Measles, etc.

If ever there was an opportunity given us of exercising prophylactic measures against tubercle at its inception we surely have it in the beneficial control we can exert over it by an open-air life, sound food and the medicinal aids of iodide of iron and arsenic where we find enlarged bronchial glands in little children. This condition is often diagnosed as asthma, chronic whooping cough and the dyspneic condition of laryngismus stridulus when associated with the malformation of the thorax known as pigeon breast (the malformation being wrongly attributed to rachitis) but rarely if ever to its proper cause. Treatment is accordingly futile.

The most frequent history given by the mother is as follows: After some illness, two or three years previously, generally measles or whooping cough, the child has never been quite the same, remaining thin and weak and subject to a chronic cough.

The cough varies in intensity from a cough so slight that, but for its chronicity and the suggestion this conveys of tubercle, would not be noticed, to a cough, so violent and urgent, as to raise the suspicion of whooping cough in the minds of those ignorant of its chronicity. On examination of the child's chest after he has been undressed we will find on

Inspection.—An unwonted and prominent network of veins over the upper part of the sternum and thorax, deep blue in color and of large caliber.

Percussion.—On percussing across the chest from right to left dulness for a variable distance on either side of the sternal border will be noticed, the dulness being sometimes more extensive on the right than on the left and vice versa. Dulness will also occasionally be found in the interscapular region at the level of the fourth or fifth dorsal vertebræ. The dulness from above downward does not extend below the lower border of the manubrium.

Auscultation.—On hyperextension of the neck, so that the child's face may be in a plane horizontal with the ceiling while his body is in the upright position a bruit similar to the hum heard over the neck vessels in high grades of anemia will be met with, the retraction of the head tilting forward the lower end of the trachea and with it the glands, causing compression of the left innominate vein. Occasionally, due to pressure effects of the enlarged glands, we will meet with cases of cyanosis of the lips and face, spasmodic attacks of dyspnea and an increase in the anteroposterior diameter of the thorax due to atmospheric pressure and obstruction of the trachea. Sometimes there is a general recession of the soft parts of the chest wall with the resulting malformation known as "pigeon breast." Puffiness of the face will sometimes be found suggestive of renal disease. A very suggestive combination of conditions is (*a*) enlargement of the cutaneous veins over the upper part of the chest; (*b*) some deficiency of resonance over or on either side of the manubrium and (*c*) a venous hum in the same position when the head is retracted; especially if these occur in a thin, delicate-looking child, suffering from a cough for which no cause can be detected in the throat or lungs and from slight intermittent evening pyrexia without assignable cause. Brilliant results will reward our efforts if we bestir ourselves at once and we will have the satisfaction of knowing that we have cheated the great white plague of at least one victim.

A HUMBLE STERILIZER.

BY DOUGLAS H. STEWART, M.D.,

OF NEW YORK.

ALTHOUGH my experience with the very simple apparatus herein described is limited to efforts at procuring afebrile labors, yet its application may be extended to almost every emergency of domestic obstetrics and surgery.

The essentials are everyday articles, viz., an awl, a wash-boiler, a string, washing soda, water and a fire. Through the flange of the boiler cover, at each of the four rounded corners and at the sides, punch a hole, in such a manner that it will be closed in by the boiler rim when the cover is in place. Through each hole pass a string. To sterilize heavy bed linen, sheets, etc., make a criss-cross network over the fabrics after packing the cover in the inverted position: put your instruments in the boiler itself, cover them with six inches of water, add one heaping tablespoonful of washing soda, put on the cover, place the whole on a gas, kerosene or other stove and boil hard ten minutes. Then extinguish the flame or remove the apparatus from the fire and set it aside to cool.

There is a distinct germicidal advantage in commencing operations with cool water and in letting the lowering of temperature after sterilization take place quite gradually. When the cover is finally lifted, it is a sterile tray and should be stood bottom upward upon a convenient table, the strings should be severed, but its contents should be allowed to rest undisturbed until each is required.

In the absence of an awl the perforations may be easily made with the household shears.

Experiments have given thermo-metric readings of 100, 100⅕ and 101 on three successive trials. The instrument in use was a centigrade tested accurately in boiling water. It seems curious that temperatures above the boiling point of water can be obtained, but they can be.

A sheet was folded as compactly as possible enfolding the thermometer in "its midst" and both were carefully wrapped in a large linen towel. A cord bound the whole together in order to make the bundle as resistant to steam penetration as it possibly could be made under actual service conditions. It was quickly and easily demonstrated that the common pressure in the ordinary wash-boiler is sufficient to raise the temperature of its confined steam a full degree above the boiling point of water, *i.e.*, to 101° C. The liquid contents make an aseptic washing fluid, but one must keep vaseline and grease out of them when boiling.

A (P. and S.) student, who has been much interested in my "laundry work," suggests that "the punctures should be made through the descending perpendicular plate of the cover approximating its inferior border. Thus the water vapor may be more conserved."

I agree with his opinion in another matter, viz., "If some tired surgeon undertakes to clean oily instruments by a final boiling he will think of anarchy and dynamite." Boiled out water covered by a layer of oil may be raised to about 120° C., when it suddenly boils with almost explosive violence. Kitchen demonstration of this experiment is not desirable; a vacant lot furnishes more chances of escape.

121 West Eighty-eighth Street.

MEDICAL PROGRESS.

MEDICINE.

Temperature after Splenectomy.—A series of very interesting observations were afforded by a patient who developed a pneumonia several months after the spleen had been extirpated on account of the presence of a neoplasm. In reporting the case, W. v. MORACZEWSKI (Berl. klin. Woch., Nov. 2, 1903) shows that aside from the changes in the blood, the course of the temperature did not vary from that in a normal person. The phenomenon most worthy of note was the connection between the increase in the blood cells and the excretion of phosphorus in the urine. The maximum amount of phosphates was excreted during the period when the leucocytes were least in number. As the latter became more numerous, the percentage of phosphates became gradually reduced and remained so until the leucocytes reached 33,000 in number, when the phosphate excretion again reached the normal figure. At the same time there was a marked increase in the quantity of calcium salts excreted, and there was a sudden drop to the normal as soon as the leucocytes reached a normal number. The potassium salts varied in a manner similar to that of the phosphates. The author assumes that the reduction in the potassium and phosphate salts is due to their increased consumption by the growing white cells.

Value of Pentose as Food.—It has frequently been pointed out that pentose may be destined to play an important part as food, since it can be easily and cheaply manufactured from such waste-products as straw and sawdust. Former observations made it seem as if assimulation were particularly active during monition, but E. BENDIX and K. DREDGER (Deutsch. Arch. f. klin. Med., Vol. 78, Nos. 1 and 2) arrive at different conclusions. Examination of the urine showed that about two-thirds of the sugar is used up normally, but exactly the same figures were obtained with the same amount ingested after a period of fasting up to the appearance of acetone and diacetic acid in the urine. The conditions in chronic inanition may, however, be different than in acute hunger, and it is also desirable to experiment with different varieties of pentose, such as rhamnose and arabinose.

Studies upon Nephritis.—In a case of subacute nephritis, F. ERBEN (Zeitsch. f. klin. Med., Vol. 50, Nos. 5 and 6) found the number of red and white cells nearly normal. The variations present were chiefly of a chemical nature, thus the albumin was considerably diminished in the plasma, the globulin slightly increased, cholesterin and water and alcohol-soluble extractives diminished in both cells and plasma, phosphate and magnesia subnormal and lime above normal in the plasma-ash, while the cell ash was normal. In chronic parenchymatous nephritis almost all the albumin in the serum was substituted by globulin with an increase of fibrin; the other changes were similar to those of subacute nephritis. In secondary contracted kidney, with amyloid degeneration, the globulin was also reduced, the fibrin increased, cholesterin and alcoholic extract diminished in the erythrocytes and increased in the serum phosphates and potassium diminished, and sodium chloride

increased in both. In conclusion, the character of the albumin excreted by the kidneys was studied. The albumin itself did not correspond to the ingested albumin, but to cellular albumin, and the same was true of the globulin, though the large amount ot this substance in the serum made it seem more probable that it was a pathological product excreted by the kidneys.

Delirium Cordis.—Six cases of rapid, arrhythmic heart-action coming on in attacks, have been observed by A. HOFFMANN (Deutsch. Arch. f. klin. Med., Vol. 78, Nos. 1 and 2), who applies the name delirium cordis to this condition. The age of the patients varied from nine to fifty-eight years, the inciting cause which led to an attack was bodily exertion, excitement, or the excessive use of alcohol or tobacco. The heart may beat as fast as 300 times a minute; on examination there is no dilatation, the first and second sounds are very much alike, and murmurs are usually not heard. Slight irregularities are common, thus there may be an alternating pulse or a beat is dropped occasionally. Blood-pressure before, during and after the attack shows only slight change, the urine is often increased in quantity, and of low specific gravity, but free from albumin and sugar. Gastric and intestinal symptoms, fever, neuralgia and variations in the size of the pupils do not belong to the symptom-complex. A strange sign is the mobility of the apex; in all cases it moved 5 to 9 cm. outward when the left lateral position was assumed. The subjective symptoms usually only amount to a sensation of discomfort sometimes increased to pain, but the bodily functions hardly ever suffer. The prognosis is excellent. In some cases the attacks will cease at once if the patients lie down and breathe deeply or hold their breath in deep inspiration; in others, pressure on the vagus or stooping-down may be effectual. Alcohol, tobacco and severe exertion should be forbidden.

Influence of Environment on the Development of Tuberculosis.—By carefully studying the social condition of the patients of his dispensary, E. SCHWARZKOPF (Deutsch. Arch. f. klin. Med., Vol. 78, Nos. 1 and 2) could prove that constant contact with unclean tuberculous patients undoubtedly favors infection, even in those who are not otherwise predisposed. Almost every individual inhales virulent bacilli occasionally, but a rapidly repeated infection will overcome the natural barrier of persons with strong lungs. The danger thus stands in direct proportion to the number of patients in the neighborhood, and the duration of exposure. It is greatest between the fourteenth and fortieth years, and increases steadily up to the fortieth year. If tuberculous patients are sanitary in their habits, very little risk is incurred. In women, lactation and pregnancy are two important predisposing factors.

Experimental Fat Necrosis.—It is now considered settled that fat-necrosis is caused by the fat-splitting ferment of the pancreas, and that this fat necrosis is responsible for the necrosis of pancreatic tissue. As soon as the pancreatic juice comes into contact with the intra-pancreatic fatty tissue, the fat will be converted into soluble soap, which is soon changed into unsoluble soap by combining with the lime of blood and tissues. The etiology of cases of so-called apoplexy of the pancreas has long been obscure, but a very satisfactory explanation is given by O. HESS (Münch. med. Woch., Nov. 3, 1903). This writer finds that if a sufficient amount of fat is injected into the excretory duct of the pancreas, total necrosis of this organ, fat necrosis and hemorrhage ending in death will follow. The symptoms correspond to those of apoplexy in every way. The same results were obtained with sodium soap, but glycerin, paraffin oil and starch-paste proved absolutely harmless. The frequent combination of fat necrosis with cholelithiasis makes it probable that the common bile duct is dilated by former gall-stones, thus permitting the fatty contents of the duodenum to enter the pancreatic duct where lesions similar to those obtained in the animal experiments are set up. Why death should be so sudden is not quite clear, but it is possible that an acute soap intoxication is responsible.

Some Rare Auscultatory Findings.—The Flint murmur at the apex has been observed repeatedly by L. SYLLABA (Zeitsch. f. klin. Med., Vol. 50, Nos. 5 and 6), and is not considered by him of such rare occurrence. It varies considerably in strength in each case, and may even disappear for a time. A mitral stenosis may thus be diagnosed on one occasion and an aortic insufficiency on another. In doubtful cases the diagnosis can generally be cleared up by giving digitalis when the murmur and fremissement disappear. The murmur is best explained by an inversion of the aortic flap of the mitral valve, due to the regurgitation of the blood, so that the orifice is narrowed. The prognosis is not more serious, though the patients often suffer more than uncomplicated cases. In a number of patients of advanced years the author discovered a systolic murmur at the apex without evidences of endocarditis, but instead, an arteriosclerosis or nephritis. The murmur may be functional and inconstant, or organic and permanent; in the former case there is irregular action of the papillary muscles or dilatation of the ventricle; in the latter, an extension of the sclerotic process upon the valve. A gallop rhythm frequently complicates the condition. It may be very difficult to decide in such cases between endocarditis, with congestion of the kidneys, and nephritis, with involvement of the heart, but a conclusion can often be arrived at by the condition of pulse, urine and blood-pressure, the size of the heart, the strength of the second sounds over aorta and pulmonary artery and the history. Another interesting lesion is the relative insufficiency of the aortic valves found in old people owing to arteriosclerotic shrinkage of the valves or dilatation of the beginning of the aorta. The clinical symptoms are those of an aortic insufficiency, but the murmur is somewhat different; it is postdiastolic and very short and feeble. These patients frequently die suddenly of syncope. Sometimes only one of the three flaps is retracted, at other times there is only a relative insufficiency, and then the murmur is liable to be inconstant. A murmur of little significance is sometimes heard in old, healthy people during the second half of inspiration over the upper portion of the sternum. It is rough and consists of two or three separate sounds, each synchronous with cardiac systole. A roughening of the adventitia of the large vessels at their origin is assumed, but as yet no autopsy findings have borne out this view. Pseudopericardial murmurs may be due to extrapericardial pleurisy, they are rough, heard best along the left margin of the lung, and are synchronous both with respiration and cardiac action. With forced respiration, they impose as pleural, with superficial respiration as pericardial sounds. A second group is less common and depends on serofibrinous perihepatitis, and a third upon right mediastinal pleuritis. These latter cases do not make the impression of being very ill, and the murmurs resemble those of insufficiency and stenosis of the aorta, but do not replace the normal sounds, and are clearly influenced by respiration, though they do not disappear entirely when the patient stops breathing. In severe chlorosis, venous hums sometimes impose as murmurs of aortic stenosis and insufficiency, since they may become louder with every systole. They can, however, be traced upward along the right jugular vein, where they become continuous. Closely allied are certain diastolic sounds sometimes heard over the pulmonic

vein in pernicious anemia. Cardiopneumatic sounds are due to an aspiration of air during every cardiac movement into that part of the lung lying upon the heart. The patients are generally neurasthenics, and much excited during examination; the murmur is heard over the third or fourth left interspace, and is most often systolic in tune. The character of the sound is characteristic and unmistakable.

SURGERY.

Selection of Anesthetic for Children.—Although chloroform is considered to be more dangerous than ether in adults its use in children has been very generally recommended because of the belief that children were practically immune to the bad effects of chloroform. S. J. KOPETZKY (Med. Rec., Oct. 3, 1903) believes that chloroform is dangerous because an overdose may be too easily given and his contentions are borne out by many men who have had occasion to give it in a large number of cases. Cardiac failure may set in at the very beginning of the anesthesia, because of the violent and dangerous struggle which takes place in frightened children. Death occurs suddenly and without warning. The tendency to push the anesthetic is too tempting especially when the patient is afraid and struggling. Cardiac syncope following vomiting may occur at any time during or after the administration of chloroform and result fatally. He particularly warns against the practice of beginning operation before complete anesthesia and also against the use of chloroform in the upright position.

Intestinal Anastomosis by the Elastic Ligature.—The application of the elastic ligature as a means of producing an intestinal anastomosis is a very simple procedure says T. A. MCGRAW (Am. Gyn., Sept., 1903). The two viscera are brought together and the surgeon connects them with a single line of Lembert sutures a little longer than the desired opening. The rubber cord is then by means of a large needle, passed through the wall of first one and then the other bowel and tied firmly with a single knot. Before tying it, however, a silk thread is laid under the knot, and, after the knot has been firmly tied with the rubber stretched to its uttermost, the silk thread is made to fasten it in place. Both threads are then cut short and the Lembert suture is now completed so as to form a ring to enclose the suture of rubber. In passing the rubber through the gut it should be put on the stretch in order to lessen the size, and drawn slowly and carefully through in order not to tear the gut. The advantages of the procedure are (1) its simplicity and quickness of application; (2) its aseptic quality, for the rubber fills the openings through which it passes so completely that no extravasation is possible; (3) the delay in opening the passage until the intestines have become well glued together; and fourth, the ability to make with it a communication of any desired length. Compared with the Murphy button it is less liable to meet with disaster from faulty technic, causes no loss of blood, is more aseptic and it leaves no foreign body in the bowel.

Thyroid Fistulæ.—An interesting and complete study of this subject has been made by E. PAYR (Archiv f. klin. Chir., Vol. 71, No. 2), from which he concludes that fistulæ following goiter are comparatively rare when the large number of other diseases of the thyroid gland are considered. Under certain circumstances any factor which produces a strumitis or a thyroiditis may also result in the formation of a goiter fistula and in exceptional instances it may be caused by parasites or neoplasms of the thyroid. Among the conditions which interfere with the closure of a fistula in this locality are tissue necroses after infectious processes, chalky concretions in the cavity, and calcification or sclerosis of the walls; in the latter case the insufficient vascular supply does not permit of the ready growth of granulation tissue. He divides these fistulæ into internal and external, the latter being extremely rare. The diagnosis is especially difficult where the diseased thyroid occupies a retrosternal position, or where there is an accessory thyroid. In such cases probing combined with the use of the X-rays may prove an efficient help. Treatment should consist in all cases of fistulæ following strumitis, on account of the dangerous complications, of complete extirpation, together with the focus of the disease and the lobe of the gland which is involved.

Hyperesthesia in Appendicitis.—A phase of appendicitis which has hitherto been neglected is the behavior of the skin toward sensation. A noteworthy fact has been brought out by J. PEISER (Münch. med. Woch., Oct. 13, 1903), namely that in the majority of cases sensibility is reduced in the right iliac region in an ill-defined area which does not admit of any characteristic figures. In one case there was hyperesthesia and in another, this developed later. The writer recommends increased observation on this phenomenon as its constancy and its relation to the pathological condition of the appendix may aid in diagnosing obscure cases.

Disadvantages of the Trendelenburg Position.—The few objections already advanced have been added to by P. KRASKE (Archiv f. klin. Chir., Vol. 71, No. 2) as the results of personal experience. He does not wish to decry the procedure and admits its great value in many cases, but advises caution in certain patients. Among these are individuals who present a weakened condition of the heart muscle as the result of degenerative changes. Here the overdistention of the heart and the increased pressure of the column of blood in the inferior vena cava, may lead to an acute irreparable cardiac dilatation. In cases where there is an extensive deposit of adipose tissue in the omentum, the mesentery and the appendices epiploicæ, a permanent displacement of the intestines may take place, resulting perhaps in intestinal occlusion. Possibly under such circumstances the pressure of the weighted intestines against the under surface of the liver may produce congestion in the portal vein and its branches and also congestion and hemorrhages in the gastric mucosa. He believes that this fact affords an explanation of those cases where gastric hemorrhages have been observed soon after operation. In corpulent persons the author advises limiting the Trendelenburg position to as brief a time as possible. After the operation is completed the patient should then be placed in an elevated position for a time and all compressing abdominal bandages avoided.

Improved Narcosis.—There is a decided advantage in using a mixture of chloroform and ether instead of either pure drug as the dangers of pneumonia and cardiac paralysis are much minimized. P. KRÖNIG (Münch. med. Woch., Oct. 20, 1903) finds, however, that it often requires fifteen to thirty minutes before anesthesia is sufficiently deep for laparotomy. He has, therefore, constructed an apparatus similar to a Bennet inhaler with which narcosis may be begun with laughing gas and then continued with ether and chloroform. The operation can usually be begun in four to five minutes and accidents were never observed.

Blood Examinations in Abdominal Diseases.—Probably leucocytosis instead of being an absolute and infallible indication of the presence of pus, is a sign of very great value of the existence of toxemia. C. J. N. LONGRIDGE (Lancet, Oct. 24, 1903) reaches these conclusions from a study of a large number of cases at St. George's Hospital. He believes that it is not possible

at present to fix any definite relationship between the amount of the leucocytosis and the intensity of the toxemia, but the broad fact remains that an increasing leucocytosis is the most scientific and accurate measure for gauging the increased virulence of an appendicular or kindred infection. On the other hand, a decreasing leucocytosis is an evidence of decreasing virulence or walling off of the toxic products. He agrees with DaCosta that the blood count in appendicitis is not a pathognomonic sign, but that it is of value for routine clinical surgery.

Perforation of the Colon by Small Foreign Bodies.—The list of materials grouped under this term—foreign body—is much broader than is usually realized. Many of them are metallic, derived from the metal instruments employed in preparing food, or from the pans and pots used in cooking it. Fragments of bone from the smaller vertebrates are frequently indigested and passed into the colon. These types of foreign bodies are more known than those accidentally swallowed and usually considered as such. J. BLAND SUTTON (Lancet, Oct. 24, 1903) states that this may be of profound surgical importance, especially when the perforations are in close relation to an epiploic appendage. Needless to state that the vast proportion of those ingested are as easily egested, but the frequency of anal abscess serves to show that a small proportion at any rate does not make so fortuitous an exit. The appendix epiploica is anatomically a fold of peritoneum filled with fat, its size depending on the amount of fat. It is easy to show that the serus investment of the colon reposes on a subserous tissue containing varying proportions of fat throughout that part of the circumference of the gut which receives the peritoneal investment. It is thus clear that there are portions of the circumference of the colon where a sharp foreign body could penetrate and escape into the general peritoneal cavity, and the thinner the person, the greater the arc of the gut which would allow this form of penetration. In a fat person, on the other hand, there is a far greater extent of its circumference so protected by fat, into which the escaping body would be more probable to find its way and occasionally lodge in the appendix epiploica. The fatter the patient, the less likely is the foreign body to penetrate the general cavity, and the greater the chance of epiploic involvement. It is conservative to state that in some instances at least the cause of the tumors of the abdomen which disappear spontaneously after operation is a minute foreign body which has perforated the cecum, the colon, the sigmoid or the rectum. The manipulation of the parts at the time of operation serves to dislodge the foreign body and admit of evacuation and disappearance of the tumor. Thus Bland Sutton explains some of the perplexities of spontaneous disappearance of solid abdominal tumors often supposed to be malignant, in which the patient has lived to mock his advisors.

New Method of Intestinal Union.—Mayo-Robson in his masterly work upon the intestines, has left a markedly favorable predisposition in the mind of the British surgeon toward the "bobbin." ALEXANDER MCLENAN (Lancet, Oct. 24, 1903) introduces his article by showing two microphotographs which are intended to compare his method with the results obtained by the Czerney-Lembert technic. The latter shows in a marked degree the annular shelving stricture, which is gratifyingly absent from the "bobbin" and ring anastomosis. The bobbins, some of which have been made of formalin—hardened gelatin rather than decalcified bone—are slightly conical. This is of distinct advantage, because when inserted, the small end of the cone is placed toward the stomach and therefore it is very unlikely that particles of food, which have once entered, will lodge in the canal. After the bobbin is placed in situ, a light umbrella ring is slipped over it to hold the gut in place. Sutures may be put in at the junction of the peritoneal surfaces, but are not to be recommended, as they lead to adhesions.

Diagnosis of Tuberculosis in Bones and Joints.—By means of an extensive series of X-ray pictures of the knee-joint, K. LUDLOFF (Archiv. f. klin. Chir., Vol. 71, No. 3) has compiled a number of rules by which he believes that the diseased can be differentiated from the well joint. These pictures are taken in two directions—from before backward, and from the side. The characteristic points in a tuberculous knee are (1) the diminution and finally the disappearance of the protuberances at the line of junction of the bone and cartilage, especially at the internal condyle, up to the fifth year, and the presence of rough surfaces at this junction up to the seventh year; (2) new bone formation in the shape of small conical projections on the under surface of the condyles; (3) enlargement of the ossified parts of the condyles, the patella, the tibia and the head of the fibula—appearing as if dilated; (4) enlargement of the epiphyseal center and its more ready permeability by the X-ray. These appearances are no doubt caused by the localization of the tuberculous process near the junction between the bone and cartilage in the region of the ossification center of the internal condyle. It is impossible to say, however, whether this is the primary focus of the disease.

Antiseptic Wound Dressings.—The value of the dry and moist dressings on a wound has been made the subject of animal experiments by W. NOETZEL (Archiv f. klin. Chir., Vol. 71, No. 1), in order to determine their relative merits. It was found that a dry, as well as moist gauze dressing (which was allowed to dry) was able to absorb tetanus bacilli placed on a muscle wound in a rabbit in such a thorough manner that the animal did not become infected with the disease. The more marked capillary drainage present in the moist dressings is shown by the fact that the bacilli penetrated the outermost layers of the latter, whereas only the inner layers of the dry dressing contained bacilli. Gauze moistened with bichloride solution was found to have inhibited the growth not only of the tetanus germs, but also those which had been derived from the surrounding skin. Eczema due to the sublimate gauze is not as frequent a complication according to this author. In order to be certain of avoiding it he recommends painting the vicinity of the wound with dermatol made into a paste with sterile water.

Operative Interference in Gun-shot Wounds of the Abdominal Cavity.—It is the opinion of the majority of surgeons that gun-shot wounds require operative interference, and expectant treatment has in the majority of cases been followed by fatal, or at least untoward results. B. K. TINKELSTEIN (Roussky Vrach, Sept. 27, 1903) bases his article on the results obtained in six cases, four of which were operated on. In the first case a man of twenty years received a pistol wound in the abdomen. As operation was refused and patient felt comparatively well, he was given morphine, ice on the abdomen, and an aseptic bandage applied. On the next day, however, there was vomiting (twice), pain at the point of entrance of the bullet, tenderness of the abdomen, pulse 120, and temperature 38.5° F. The condition became worse the following day, the abdomen became extremely painful, pulse normal; fatal issue at midnight. In this case the bullet entered under the lower border of the right kidney, penetrated through both walls of the intestine, while the peritoneum showed general inflammation. In the second case the point of entrance

was three fingers below the unbilicus, and two to the left of the median line. Immediate laparotomy was performed, and the peritoneum was found to have been penetrated by the bullet. Two intestinal wounds were detected and closed by Czerny-Lambert sutures. The bullet could not be found. Recovery uneventful. A somewhat similar case, though of greater severity, was operated on with similar favorable results. The other cases are of the same character, except the sixth, in which no operation could be performed, with the result that the patient died; and this, notwithstanding the fact that in both the first and the sixth case the author had to do with young people, of good general condition, who were given the best possible medical attendance; besides the involvement of the peritoneum was apparently not sufficiently extensive or severe to cause death; and it is quite probable that operative interference would have saved both patients. The favorable issue following operation is especially important in two of the cases, where there were multiple wounds of the intestines and the mesentery; and the author entertains no doubt as to certainty of death in both cases, if not for his interference. The bullet was not found in either of the cases, having probably become embedded in the muscles of the spine. In one case in which the stomach was severely injured operation failed to save the patient. We must, however, add that in this case both the liver and the pancreas were wounded, and death was due to a severe peritonitis.

Aneurism of the Hepatic Artery Treated by Ligation.—H. KEHR (Münch. med. Woch., Oct. 27, 1903) reviews the literature of hepatic aneurism, and finds that of the 22 cases published, only 3 were treated surgically. Since these were all fatal, his case is the first successful one on record. The symptoms were those of cholelithiasis, with gastric or duodenal ulcer, since the aneurism had ruptured into the gall-bladder from where the blood found its way into the stomach and intestines. The patient was anemic and in very bad condition, but his life was probably saved by a firm clot which had formed in the cystic duct and which was probably responsible for the attacks of colic. A pulsating tumor could not be felt through the abdominal walls. The operation was rendered difficult by an enormous hemorrhage. After the ligature had been applied, the sac was freely incised and proved to be the size of a goose egg. Owing to the large number of collaterals which had formed during the two years the patient had been complaining, the outcome was favorable. The cause of the aneurism was entirely obscure in this case, since there was no history of lues, arteriosclerosis, cholelithiasis or trauma. Where the sac ruptures into the abdominal cavity, death is so sudden that an aneurism is often not suspected, but in other cases, a diagnosis will often be possible. The occurrence of a marked anemia and of hematemesis and intestinal hemorrhage, accompanied by biliary colic and jaundice, is highly suggestive. It may be possible to fill the gall-bladder, but the aneurism is generally seated too deeply to be palpated. It must not be forgotten, however, that gastric hemorrhages may also occur in cholelithiasis, due to the general cholemic diathesis, acute portal thrombosis or ulceration of stomach or intestine. Conversely, a duodenal ulcer may be complicated by cholelithiasis, owing to kinking of the cystic duct, from periduodenal adhesions. The only rational treatment for aneurism can be ligation, for though physiologists state that the hepatic artery is indispensable for the nourishment of the liver and its vessels, sufficient collaterals have generally formed to prevent a necrosis. If the aneurism involves only one branch, this alone should be tied, especially since it is comparatively easy to isolate the artery. The sac should be tamponed with sterile gauze and the gall-bladder may be removed.

PHYSIOLOGY.

Subcutaneous Nutrition.—For the purpose of determining whether certain albuminoid substances could be injected subcutaneously, without the unpleasant sequelæ attending the injection of the ordinary albumin or albumoses (peptones), a series of animal experiments have been undertaken by TROLLDENIER (Berl. klin. Woch., Oct. 5, 1903). The albumin was in solution and in the form of an intermediate product between true albumin and the ordinary commercial peptone. It was assumed that the more nearly the material approached the natural, unchanged albumin, the more readily could it be employed to furnish a substitute for the albumin in the body. The experiments were made in dogs, a 10-per-cent. solution of the material being injected subcutaneously, in doses of from 50 to 100 c.c., under strict aseptic precautions. These experiments showed that the albumin was not excreted with the urine and the dog in sixteen days increased 0.5 kgr. in weight. The only difficulty seemed to be the development of painful abscesses at the site of injection, due to the slow absorption of the material injected. These, however, healed readily, and did not interfere with the good condition of the animal. Further experiments were made until a solution was finally obtained, which contained 8 per cent. of the intermediate products mentioned, and also 0.6 per cent. of cooking salt. This was also employed in two human subjects, and a number of dogs with much better success, causing only a slight swelling which soon subsided.

Physiology of the Pineal Gland.—In a previous investigation of the functions of the hypophysis, E. v. CYON (Pflüger's Archiv, Vol. 98, Nos. 7 and 8) believed that the pineal gland shared with the hypophysis the power of mechanically regulating the quantity of cerebrospinal fluid in the ventricles of the brain. In order to make a complete study of the chemical, as well as the mechanical aspects of the subject, the author first experimented with extracts of the pineal body. The intravenous injection of large doses of the latter diminish the rate and increase the force of the heart-beat, and cause the appearance of the irregularities known as the bigeminus and trigeminus pulses. These changes depend on stimulation of the central ends of the vagus. The question arose whether these changes represent physiological actions of the pineal gland or are to be attributed to the action of the inorganic substances that are found in large quantity in the pineal body under the form of concrements. The author finds that there is no ground to suppose that the pineal extracts are an exception to the other extracts that act favorably upon the heart and blood-vessels. A series of experiments were made directly upon the gland itself. The lightest contact of electrode connected with an inductorium having a current of 5 volts in the primary coil, produced a slight change in the form of the gland. This change consisted in a shrinking of the glandular tissues with a slight shifting of the gland as a whole. What is the physiological significance of these changes? The situation of the pineal gland in the path of the aqueductus sylvii, near the mouth of the third ventricle, suggested the hypothesis that a contraction accompanied by a shifting of the gland, would serve to regulate the flow of cerebrospinal fluid to and from the third ventricle. The pineal gland would, therefore, play a mechanical rôle, controlling the flow of cerebrospinal fluid in the aqueductus sylvii, and according to the pressure imparted thereby to the fluid in the third ventricle,

to cause a dilatation or contraction of this cavity. This hypothesis is strengthened by the discovery made by N. Nicolas that the pineal gland contains striated muscle fiber. The fact that animals from which the hypophysis has been carefully removed, and human beings suffering from tumors of the hypophysis, soon succumb with manifestations of increased intercranial pressure (coma, vapor, etc.), seem to indicate the mechanism of the pineal body is entirely depending for its perfection upon that of the hypophysis, or that the latter is not alone capable of fully warding off excessive intercranial pressure.

Anatomico-physiological Significance of the Muscularis Mucosæ.—The interesting fact was established by A Exner, according to BIANCA BIENENFELD (Pflüger's Archiv, Vol. 98, Nos. 7 and 8), that the muscularis mucosæ of the intestinal canal prevents the entrance of foreign bodies into the mucous membrane. It is indeed very remarkable that frequently sharp foreign bodies pass through the alimentary canal without causing any wounds, in spite of the fact that with certain animals, as with beasts and birds of prey, the repeated swallowing of sharp bones is a daily occurrence. In a series of comparative anatomical researches the author, a student of medicine, found that the muscularis mucosæ of the stomach and of the upper part of the small intestine is much more distinctly developed in animals, whose alimentary canal is exposed to injury from sharp foreign bodies, than in those feeding upon a soft kind of food. In the lower part of the small intestine and in the large intestine, this thickening—a species of compensatory hypertrophy—is not evident. In general, the muscularis mucosæ decreases in thickness from the stomach to the large intestine. This is to be attributed to the fact that sharp bodies, such as fish-grates, in their course through the alimentary canal, are partly softened and blunted by the digestive secretions, and are also enclosed in firm scybala.

Influence of Bodily Exercise upon the Healthy Pulse-rate.—A large number of determinations of the frequency of the pulse made upon individuals in good health after certain forms of exercise, by F. TEWILDT (Pflüger's Archiv, Vol. 98, Nos. 7 and 8), show that the acceleration is not so much dependent upon the duration of exercise as upon the speed with which it is performed. A moderate but long-continued exercise increases the frequency of the heart-beat to a much less degree than a series of movements very rapidly performed, which may at times double the frequency of the pulse. Daily observation shows that this law does not hold with cases whose circulatory apparatus is no longer intact, in whom excessive exercise may cause irreparable damage, not seldom resulting in death.

Rôle of Pancreas and Muscle in Burning Carbohydrates.—It is now known that the burning of large quantities of grape-sugar in the muscles, is brought about by the action of a ferment, according to O. COHNHEIM (Hoppe-Seyler's Zeitsch., Sept. 3, 1903). Moreover, the discovery of pancreas-diabetes has indicated that in the higher animals the pancreas plays a decisive rôle in the metabolism of sugar. It secretes a substance whose absence from the blood renders the oxidation of sugar impossible. The search for a glycolytic ferment in the pancreas has not yet been rewarded with success. The author sought to combine both organs, namely, muscle and pancreas, and to prove whether they cooperate to produce a glycolytic ferment. This he found to be the case. From admixture of muscle and pancreas, a non-cellular fluid may be obtained, which, in the presence of grape-sugar, changes it so that it loses its reducing power. The two organs separately cannot do this. It would, therefore, appear that in order that grape-sugar may be oxidized in the organism, the cooperation of muscle and pancreas is necessary. Since the catabolism of sugar takes place in a homogeneous fluid outside of the cells, it must be the result of some ferment-action. This process may be analogous, either with the fact discovered by Ehrlich that for the accomplishment of lysin-action, complement and intermediate body are necessary, or with the condition discovered by Pawlow, namely, that the trypsinogen of the pancreas is made active only by the enterokinase secreted by the intestinal mucosa. The teleology of such a cooperation can easily be explained. The burning of sugar must take place in the muscles, since in them the resulting energy is utilized. But in the fluid contents of the muscle, the glycolytic enzyme cannot be separated from the sugar. Hence a provision must be had for making the enzyme active only when the energy is demanded. This provision is furnished by the internal secretion of the pancreas.

Reverse Action of Proteolytic Enzymes.—In 1895 itwas discovered, according to R. O. HERZOG (Hoppe-Seyler's Zeitsch., Sept. 3, 1903), that the addition of pepsin, trypsin or papayotin to concentrated solutions of albumoses, caused the formation of a flocculent or jelly-like precipitate. This phenomenon was termed plastein-formation. The recent experimental proofs of the synthetic powers of ferments suggest that the formation of plastein is also to be considered the result of a synthesis of the split products of proteolytic ferments. The question arose whether the substance "pepsin" is not a mixture of the ordinary peptic enzyme and one that results in the formation of plastein. The author, by means of a series of physicochemical researches, has proved that the proteolytic enzymes are indeed capable of a reverse action. Recently E. J. Spriggs has shown that during the course of the peptic digestion of albumen, the viscosity of the latter diminishes at first rapidly and later slowly. The author finds that in the presence of the proteolytic enzymes, concentrated solutions of albuminoses increase in viscosity. In this connection it is necessary to refer to the interesting fact discovered last year by Weinland. namely, that the juices expressed from intestinal worms, such as *Ascaris lumbricoides,* contain an antiferment, counteracting the action of pepsin. This, of course, protects the parasite from proteolytic dissolution. The author used this phenomenon as a test of the reversionary power of the proteolytic ferments, for if the splitting and the synthetic action of the latter enzymes be attributed to the same cause, then any agent, such as the antiferment of *Ascaris,* that inhibits the one would also inhibit the other function. This is found to be the case. The increase of viscosity above mentioned is inhibited by the addition of the juice of *Ascaris* and, indeed, to the same degree as the viscosity is reduced during the hydrolytic action of the ferments. This regular increasing viscosity is considered by the author as a proof of the reversion hypothesis.

Physiological Relations of Glycerin.—This substance is found normally in the blood in very small quantities, according to M. NICLOUX (Jour. de Physiol. et de Path. Gén., Oct. 15, 1903). This quantity is not influenced by the condition of fasting nor by a diet rich in fats. After the intravenous injection of glycerin this substance is rapidly excreted in the urine. It appears that the renal epitheluim exerts a powerful selective action on glycerin.

The Iron-content of the Animal Body.—A new determination of the iron-content in the various tissues was made by M. SCHMEY (Hoppe-Seyler's Zeitsch., Sept. 3, 1903), with certain interesting results. A review of the classical investigations on the proportion of iron in

the various foodstuffs reveals the fact that of all nutrients, the more important ones have a larger iron-content than milk. A priori, the opposite would have been expected, inasmuch as milk forms at first the only nourishment for the growing animal, which, for the building up of the iron-holding organs and tissues, requires more iron than the adult animal. The paucity of the quantity of iron in milk is all the more surprising, inasmuch as all the other inorganic constituents are present in this medium in exactly the same proportion as they are required by the nursling; but the latter requires only one-sixth of the amount of each of these inorganic constituents furnished. All the rest is wasted. In the case of iron, this extravagant expenditure on the part of the maternal organism is not found. The solution of this apparent contradiction is found in the fact that at birth the nursling possesses in store for future use a large supply of iron. In fact, the amount of iron in the entire organism is proportionately greatest at birth, and gradually decreases with the growth of the animal. The microchemical researches of Macullum have shown that ingested iron is absorbed by the epithelium of the small intestine. Abderhalden proved that a diet containing an excess of inorganic and organic iron, causes a deposition of this substance in the duodenum, in the rest of the small intestine in the solitary follicles and Peyer's patches, and next in order, in the cecum, large intestine, mesenteric nodes, liver, spleen, and least of all, in the muscles. The question arose in the author's mind, whether other organs possess this capacity for storing up iron, particularly the muscles, which by virtue of their great total bulk, may store up a large quantity of this element. He finds that this is really the case, and also that the cardiac muscle is, without exception, richer in iron than the rest of the musculature.

HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Origin of the Alexines.—A series of researches in the factors that lie at the base of natural immunity, was made by R. TURRO (Journal de Physiol. et de Pathol. Gén., Sept. 15, 1903), with the following results: The alexines are substances that act upon the bacterial protoplasm, dissolving it or changing it into an amorphous material. To this process may be given the name bacteriolysis. The alexines originate in the cellular plasmas; those that are furnished by the phagocytes and the macrophages, are called cystases. The properties of the alexines vary according to the source. Some are active and others inactive, with respect to particular bacteria. Chemically considered, the alexines are enzymes that digest the bacteria by means of a progressive hydrolysis. This conception indicates the powerful means by which the organism protects itself against infection. The cellular juices are capable of elaborating an almost inexhaustible quantity of alexines. An alexine obtained from the spleen is capable of digesting 20 to 30 times its weight of the *Bacillus anthracis*. These enzymes may remain potential or inactive, if there are no adequate means for their solution and diffusion in the blood and lymph. The discovery of the intimate mechanism by means of which the alexines are formed and acquire the expansive force which distributes them easily throughout the body, will furnish the solution of the problem of natural immunity, whose process is intimately bound up with the nutrition of the cell, under its double aspect of assimilation and disassimilation.

Disseminated Diphtheritic Gangrene of the Skin.—In the case of a male adult not primarily suffering from diphtheritic angina, R. BERNARD and O. JACOB (Arch. de Méd. Expér., Sept., 1903), observed the condition of disseminated cutaneous gangrene. This proved to be, on microscopic examination, a condition caused by the bacillus of Loeffler, probably aided by a polymicrobic symbiosis. From the clinical standpoint one may consider that disseminated cutaneous gangrene is an atypical form of diphtheria, having no peculiar symptomatology, and whose diagnosis is a bacteriological one. In the case reported, the repeated injections of the antitoxic serum were followed by a cure.

Typhoid Fever and a Diplococcus.—In the course of and during the convalescence from certain cases of typhoid fever, there have been observed by H. LEROUX and M. LORRAIN (Arch. de Méd. Expér., Sept., 1903), certain serious complications, characterized by vomiting and polymorphic erythemas, of an epidemic character. These accidents are not caused by the typhoid bacillus, but are the result of an additional infection, whose pathogenic agent in the cases observed, appears to be a diplococcus analogous to the *Diplococcus hemophilus* described by Deguy in metadiphtheritic infections, and resembling in certain features the enterococcus of Thiercelin.

Toxic Power of Blood Serum.—The blood serum of the deer was used in a series of experiments by A. SCLAVO (Archives Ital. de Biol., Sept. 10, 1903), to determine its toxicity in various animals under different conditions. Injected intravenously in rabbits, it was markedly toxic, but was less so when injected under their skin, in which case it produced an extensive gelatinous edema at the point of injection. The temperature of 55° C. destroyed the toxicity of the serum at the end of three hours, and markedly reduced it at the end of fifteen minutes. An exposure to the air for fifteen days destroys the toxic power. This is also equally diminished in contact with ether or chloroform. The toxicity is not affected by filtration through a Berkefeld filter. The serum of the deer has a marked destructive effect in the red blood cells of various animals. This serum after having lost its toxicity by heating to 55° C., does not regain it by the addition of other fresh serum; consequently, the toxic constituents present in its natural state correspond to certain bacterial toxins rather than to the hemolysines. By means of small doses of the fresh serum, or even by means of the serum rendered innocuous by heating, it is possible to strongly increase the resistance of rabbits to the strongest doses of the serum. The serum of these animals, thus fortified, will protect other normal rabbits against the serum of the deer, whether the former be injected directly into the veins, or be mixed in the test-tube with the deer's serum about to be administered. Rabbits which have been made capable of supporting large doses of the deer's serum, are also capable of withstanding a dose of the serum of the ox greatly in excess of the dose fatal in a control animal. This fact lends support to the view that the toxic substances met with in the blood of various mammals, if not identical, are at least closely related.

Experimental Tuberculosis.—Goats, oxen and horses are found by J. DE HAAN (Virchow's Archiv, Vol. 174, No. 1) capable of being rendered tuberculous by means of pure cultures of tubercle bacilli obtained from sputum, provided the animals are in poor condition. Macroscopically and microscopically the lesions are identical with those of tuberculous animals of Europe. There seems to be no racial immunity, and the infrequency of tuberculosis is to be ascribed to favorable environment. The monkey was found to be very susceptible. In all infected animals the lungs and bronchial lymph-nodes were involved, with or without tuberculosis of the mesenteric lymph-nodes. The intestines were generally intact.

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SANITARY DEVELOPMENT OF STREET CLEANING.

IN the paper read before the New York Academy of Medicine on Thursday, December 3, 1903, Dr. Woodbury, the Commissioner of the Street-Cleaning Department of the municipal government of Greater New York showed very forcibly how much a physician can accomplish in the work of organizing and directing this important branch of city government. The improvements that have been introduced in the department's methods as the result of his term of office will undoubtedly prove the basis for a street-cleaning department in New York that will eventually prove a model for the world. There is no doubt that Dr. Woodbury has exhibited thoroughly progressive views in the matter, and has begun, as far as his short term of office would allow, the introduction of improvements that make street cleaning not a haphazard expenditure of the appropriation allowed for the purpose, but a definite organization of the disposal of city waste in such a way as to secure the best results with the least expenditure to the municipality.

It has long been known that the waste material of a great city was extremely valuable and that under proper conditions the collection and disposal of it might very well be made not only to pay for itself but actually to leave a surplus of revenue. So far there has been apparently very little thought of possible applications of this principle in the disposal of the extremely valuable waste of New York City. Now there has been a beginning of it. The ashes are being used for filling in near one of the islands in the harbor and already nearly one hundred acres of valuable land have been reclaimed from the water. This of itself constitutes an excellent financial showing. After small beginnings, in scarcely more than an experiment station, at least one good plant for the disposal of city rubbish has been constructed. In this it has been found that enough fuel is constantly being burned to supply an immense amount of valuable energy. This energy is now being used for lighting for another plant of the street-cleaning department, and may very well be further employed for city lighting purposes. Even the garbage is not entirely a source of expense, and street cleanings are being disposed of as manure, for which of course the material is very suitable.

A valuable element of Dr. Woodbury's work, however, is that especially which he has been able to accomplish because of his training as a physician. From the very beginning of his term he came to the realization that the open street markets for food materials in the crowded portions of the city on the lower East Side were a constant source of danger to the health of the city. Besides being a public nuisance because of the obstruction of the streets, they are a hindrance to the street-cleaning department's work for the reason of the crowds that constantly gather near them, and the source of very offensive littering of a quarter of the city already below standard in the matter of health. Underneath the new Williamsburg Bridge places were found for the fish market and other food product markets that formerly occupied places along the curbs in such crowded streets as Hester and Rivington. This change will undoubtedly be reflected in the mortality and morbidity records of the city in a very short time.

An important part of Dr. Woodbury's paper was taken up with the discussion of the number of microbes that occur in various portions of the city, and a stereoscopic demonstration of the bacteriology of the various districts which makes very clear the reason why the mortality should be so much higher on the lower East Side than it is on upper Fifth Avenue. Agar culture plates exposed for fifteen minutes in Hester Street give thousands of colonies of bacteria, while in the better residential quarter of the city the same ex-

posures result in, at most, a few scattered colonies, most of non-pathogenic and a few even more harmless molds. The necessity for thoroughly cleansing these crowded portions of the city and for making the index of the success of the street-cleaning department not quite so much the satisfaction of the dwellers on Fifth and Madison avenues, but the health statistics of crowded quarters, is very evident.

Dr. Woodbury has shown this new lesson in a very striking way. We congratulate him on the work that has been accomplished. We are elated to find that a physician should have shown such favorable possibilities for the practical organization and development of a great city department. The new city government now has a model before it that it cannot ignore without expense to popularity and the further evolution of the street-cleaning department into an, at least partially, self-supporting municipal bureau must be the criterion of the fitness of Dr. Woodbury's successor.

The demonstration of his fitness in a managerial capacity should prove the advisability of putting a physician in charge of the New York City Board of Health. There has been an impression that the laws of New York State forbade the appointment of a physician as the head of the department of health of this city. Even the President of the New York State Medical Association stated in his address at the recent annual meeting that a physician might be elected President of France but not of the New York City Board of Health. This was true under the old city charter but under the new charter, as stated by the counsel of the New York State Medical Association, in the December number of the journal of the Association, it is no longer true. We are in a time of specialism; and sanitary experts, known to be such, should be chosen as the heads of both the departments of health and of street cleaning.

AN OLD FRIEND IN NEW ROLES.

ERGOT has long been one of the standard drugs, with whose use every medical practitioner was familiar at least in his obstetrical work. In recent years, however, the efficacy of the drug has been proven in a number of conditions and it would seem that it may be considered by the next generation of physicians as one of the most important substances in our therapeutic armamentarium.

At the recent meeting of the New York State Medical Association the employment of ergot was once more discussed in regard to its effect in alcoholism and in drug addictions of various kinds. A number of conservative observers have used ergot by hypodermic injection especially in alcoholic cases and have found it to give very satisfactory results. Surgeons especially did not hesitate to say that in surgical cases complicated by alcoholism no drug was equal to ergot in quieting the patient, preventing delirious complications, and restoring the individual to a restful condition.

The report of the experiences at Bellevue Hospital in New York seems to prove that ergot is of benefit even in the most advanced alcoholic conditions and under circumstances in which ordinarily there would appear to be very little hope of a favorable issue in the case. Dr. Alexander Lambert has found that in the so-called wet brain of alcoholics, an almost inevitably fatal condition, ergot given hypodermically proves life saving in a great many cases. Where formerly he was satisfied to save two or three out of thirty or forty patients, using all of the ordinarily recommended remedies, he now has but two or three deaths from this condition during his term of service.

This is, however, not the only purely medical field in which ergot has attracted attention in recent years. In cases of chronic malarial poisoning ergot has been found more satisfactory than even quinine for the prevention of the more serious symptoms. It has been found that when surgical operations are performed upon those who have previously suffered from severe malaria it is not unusual to have symptoms of malarial fever occur a few days after the operation. The disturbance of circulation incident to the operation seems to allow the escape of malarial parasites from the spleen where they had been stored. In these patients it has been found that the use of ergot for some time before an operation and shortly after it, inhibits and often prevents the development of malarial symptoms. In other cases of chronic malaria an end can be put to the recurrence of so-called attacks of dumb ague by means of ergot.

In chronic diarrhea ergot has also been found a very useful drug. Its special field appears to be the serous or seromucous diarrheas of adults in which nervous conditions are the most important etiological factors. The vasomotor paresis which develops in these cases and permits the free outflow of serum from the dilated blood vessels of the intestinal wall is prevented by the toning up of these blood vessels consequent upon the effect of ergot. In bacterial diarrheas, especially at the beginning, the outflow of serum is of itself a protective effort on nature's part to assist in the throwing off of the offending micro-organisms

and this protective mechanism must not be interfered with. After a time the diarrhea seems to continue as the result of the formation of a bad habit of relaxation on the part of the intestinal vessels and then ergot has a distinct field of usefulness.

It is not unlikely that in the serous conditions incident to other diseases ergot may prove to be a most important agent. Edema of the lungs still continues to be an extremely fatal disease in spite of all therapeutic efforts. Since ergot has proved so beneficial for edema of the brain, its use here would seem to be especially indicated and, as a matter of fact, some cases have been reported in which recovery has taken place in what would otherwise have proved to be fatal pulmonary edema. In dysentery, at times, the outflow of serum from the blood vessels proves a culture medium for the rapid multiplication of the micro-organisms present in the intestine. Under these circumstances the use of ergot would seem to be indicated.

In all these cases the drug should be used up to its full physiological effect. With regard to alcoholism especially subcutaneous injections of half a dram of a fluid extract of ergot containing 12½ per cent. of the drug should be employed. This should be repeated as often as is necessary, or until there is a definite improvement in the patient's condition. As was very well said by several of the participants in the discussion at the New York State Medical Association meeting (see MEDICAL NEWS, October 31, p. 852) to have due success in the use of ergot the ordinary ideas with regard to the dosage of the drug must be revolutionized. To give small amounts is to invite failure, while so far the use of larger doses have produced no serious effects and it would seem that none need be feared. Further investigation of the uses of ergot in these and allied conditions may make the drug one of the most useful in the Pharmacopœia.

DO LIVER AND KIDNEY CELLS REGENERATE?

IT is beyond our ability to foretell at what point that branch of surgery will end which depends for its success upon the belief that variously diseased parenchymatous cells will regenerate in the presence of an increased and altered blood supply.

In the last seven years the operation of epiplorrhaphy has been performed several hundred times, due to the stimulus given it by the success in 1895 of Rutherford Morison. Greenough, of Boston, has recently collected particulars of 105 patients with cirrhosis of the liver with ascites due either to alcohol, syphilis or malaria, that had been operated on by the Talma technic. It will be remembered that this is based upon the belief that the ascites is due to mechanical obstruction rather than to an effort on the part of nature to cast off certain poisonous substances from the blood which the damaged liver cells can no longer break down into the elementary excretory products of metabolism.

Of Greenough's 105 patients, 31 died within thirty days of the operation, 29 recovered and lived upward of thirty days without showing any improvement. Forty-four showed some improvement, but in many of these the time elapsed after operation was very short. Sixteen had died at periods ranging from one to twenty-four months after operation and only nine were alive and free from ascites more than two years after the radical treatment had been instituted.

Brewer's statistics, given in his recent textbook, are somewhat more favorable. He records a mortality of 37 per cent. with 20 per cent. of marked improvement and 10 per cent. of cures. In the opinion of this author these results seem to warrant its continued trial inasmuch as the mortality a few months after ascites has developed is about 100 per cent. Those who favor the operation describe the high mortality in part to the belief that ascites may in many cases be looked upon as a sign of approaching death.

Sinclair White, in the *British Medical Journal*, Oct. 10, 1903, says that the testimony of competent observers, who during operation "have been able to satisfy themselves by sight and by touch that well-marked cirrhosis was present in patients who subsequently recovered and remained free from recurrence of the ascites, is not easily set aside."

Talma and Drummond claimed for the operation merely that it would cure or relieve ascites by providing abundant anastomosis between the portal and systemic veins, but there seems to be reason for believing that it may accomplish more than this. As, with the improvement in technic, there is a decrease in mortality and less fear of the operation, it becomes possible for the surgeon to obtain cases before the patient's state is hopeless, there may be possible an actual regeneration of the old or even a creation of new parenchymatous cells. This idea has been exploited in the recently developed operation of decorticating the kidney for chronic nephritis.

While clinicians are striving to determine the validity of the claims in favor of this technic, re-

search students are attacking the problem from the laboratory standpoint. Haven Emerson, in a paper read before the Association of the American Physicians, Washington, 1903, as a result of a series of experiments at the Columbia laboratory, concludes that "in the dog, where the decapsulation is intraperitoneal, we have marked vascular connection with important viscera, not with fatty tissue, and so marked a formation of connecting tissue penetrating the parenchyma from the new capsule as to present the picture of a beginning interstitial nephritis. Where we find vascular connection we see the most serious lesions of the renal parenchyma. Where the real lesions are not found, we see no formation of new blood vessels."

It is unusual to find accurate laboratory and clinical evidence at variance for any length of time, but at the present moment there is a wide diversity between the opinions just quoted and those of Edebohls and his followers, who have been practising decortication very widely. It may be possible that these dissenting views will have a clearer relation to each other if it becomes possible for the subjects of the clinical and laboratory workers to be similar. In the one case the patient was a healthy dog, in the other a diseased human being.

Leaving the ultimate question of cell-regeneration for future decision, and considering only the expediency of what may be termed sanguiducent operations for the relief of symptoms which destroy life, there appears to be ground for the statement that in chosen cases they should be undertaken. As yet they are restricted to the relief of the liver and the kidney. There is before the medical world to-day no question more profoundly important nor fraught with greater possibilities than the determination of the efficacy of a technic which enables one at will to modify and to deflect the circulation of the abdominal viscera.

HOPE IN THE HOME.

THE second lecture under the auspices of the Phipps Institute was delivered by Dr. William Osler, in Philadelphia. The subject, "The Home in Its Relation to the Tuberculosis Problem," was as striking in its forceful presentation of the Home Treatment of Disease, as Dr. Trudeau's paper, published six weeks ago, was of his personal experience with Sanitarium treatment.

The historical handling of the treatment of tuberculosis, though presented merely in the form of allusion, is convincing; for Dr. Osler has focussed the individual rays of past experience upon the work of the present decade, even of the present year, and has shown that there is no insurmountable difficulty in carrying into the homes, where 98 per cent. of tuberculous patients must be treated, the educational propaganda that will sooner or later lessen the sources of infection.

The possibilities that he outlines, of efficient Board of Health inspection, of philanthropic scientific house to house instruction, and of home treatment by fresh air and proper food is intensely practical as well as very suggestive. When Dr. Osler sums up other men's experiences he does it with a critical sense born of his own knowledge that enhances the value of his data. And such an article should justly lead many a physician to confidently assume the home treatment of patients who could not go away; and whom they otherwise would give up.

ECHOES AND NEWS.

NEW YORK.

Mosquito Extermination.—On December 16, at 2:30 P.M., in the rooms of the Board of Trade and Transportation (Mail and Express Building, Broadway and Fulton street), will be held the first general convention on the subject of Mosquito Extermination, and all that implies in the way of health, drainage for agriculture and other objects, scenic improvement of foul, wet places, etc., etc. Speakers of national reputation from all sections are on the program and the themes comprise a review of the progress of the movement for extermination from a number of different viewpoints.

Omission in Report of Genito-Urinary Section of Academy.—In our last week's report of this Society we omitted to credit Dr. John Van der Poel as the author of the cases of "Retention of the Urine Due to Foreign Body in Bladder of Uncertain Origin," and of "Extravasation of Urine Due to Phimosis."

State Health Matters.—According to the bulletin of the State Board of Health for October, there were no deaths in three towns in the State during that month. These healthful communities were Malone, with a population of 5,935; Camden, with a population of 3,745; and Westfield, with a population of 2,430. Baldwinsville, with a population of 3,000, and Walton, population 4,869, each reported one death in the month. The total number of deaths in the State for the month was 9,786, or 226 more than the average for the last five years.

Professor Allchin Clinic at Roosevelt Hospital.—Professor Allchin of the Westminster Hospital, London, gave a very interesting talk before the students of the College of Physicians and Surgeons, at the Syms operating theater, Roosevelt Hospital, on Dec. 7. He was introduced by Professor Walter B. James, and devoted a part of the hour to an exhibition and explanation of a case of acute articular rheumatism. He said in part: "There are fewer cases of acute articular rheumatism now than formerly, and the chief symptom, pain, lasts for a much shorter time. This is due largely to the use of salicylates as a specific. The two principal symptoms are pain and

affections of the heart. The former accompanies the disease in children, but is much less severe than in adults, and lasts only a few hours. It is common to see a child suffering severely in the morning, and find that it is able to run about and play in the afternoon. In this class of cases the salicylates seem to be of much less value than in adults. The heart lesions in children are dominant; but loudness of a murmur is not characteristic of the state or severity of the lesions producing it. As complicating factors you may expect, and are very likely to find, chorea, endocarditis, pericarditis, subcutaneous nodules, sore throat, and acute tonsillitis. In the adult the dominant symptom is pain coming on suddenly, and persisting for one or two weeks under treatment. The heart is not seriously involved, and usually escapes if there was no previous disease."

Prof. Allchin spoke very cordially of American physicians and was thankful for the honor bestowed upon him in being allowed to address in a didactic fashion the body of students before him. Professor James announced that Prof. Allchin's System of Medicine will be placed in the medical library of the college as soon as the recommendation is ratified by the Committee on Accessions.

Fee for Deficients' Examinations at College of Physicians and Surgeons.—According to a recently published rule of the Faculty at Columbia all students in the medical department of that university who are found deficient upon examination will be required to pay a fee of $5. This applies especially to conditions attendant upon the regular spring test of each year, and every student who is obliged to come up in September must pay the fee for his particular series, it being understood that no one can advance with his class who carries more than three deficiencies. Failure to pass at the first conditional examination entails a charge of $5 for a second trial in each subject in which the student is still deficient, and he may not advance with his class until such deficiency is made good. It will be interesting to note whether this rather severe provision will increase the college exchequer or elevate the standard of scholarship. If the latter result is brought about there will be no question as the efficacy and wisdom of the plan as above outlined.

Presbyterian Hospital Report.—The annual report of the Presbyterian Hospital has just been issued, and shows that a greater number of medical and surgical cases have been received than ever before in its history. The present accommodations of the hospital are taxed to their utmost, and the demands for care and treatment are yearly increasing. Although the annual deficit continues to be large and this year amounted to $58,504.88, the work of the hospital has not been curtailed, as the managers have had faith that the public will sooner or later appreciate the charitable service rendered, the absolute necessity of it, its importance to the public health, and also the great value of the educational work in the training of physicians and nurses. During the fiscal year ending September 30, 1903, 71,235 days of treatment were given to 3,214 patients in the hospital wards and private rooms, the average being 195 per day, which is as many as the present capacity of the hospital will admit of without unwise overcrowding. The average time spent by each patient in the hospital was twenty-two days. Of these patients 68 per cent. were unable to pay anything and were treated free, 6 per cent. were on endowed beds at the request of those having the right to nominate patients for such beds, and were therefore not charged for treatment, 17 per cent. paid only $1 per day, and the remainder, 9 per cent., were private-room patients and were charged little more than the cost of their care. The average cost to the hospital, including all special nursing furnished, has been for ward patients $2.51 per day. The dispensary has the services of 46 physicians, of whom 23 are on duty each week day from 1:30 to about 5 P.M. Prescriptions given are filled at the pharmacy for the trifling fee of ten cents, regardless of the real cost of the medicine, and without charge if the patient is unable to pay. The same patient may come daily as long as his or her condition needs the attention of the physician. During the past year, 30,092 persons made 81,219 visits, being an average of 269 per day and an average of 3 visits by each person; 82,488 prescriptions and 20,698 surgical dressings were furnished. The average amount paid by patients per visit was 12¼ cents, and the average cost to the hospital per visit, including prescriptions and dressings furnished, was 11¾ cents. During the past year the ambulance responded to 2,844 calls, an average of 8 per day. Of this number 394 patients were treated by the ambulance surgeon, and then taken to their homes or left at place of call, not needing further hospital treatment. The cost of the ambulance department was about $3,946 during the year, and the revenue to the hospital $16. While there are several other hospitals in the vicinity, this is the only one maintaining an ambulance service ready day and night for immediate calls. The pathological department is an important and indispensable factor in the examination of practically every patient admitted to the hospital. More than 18,000 bacteriological, histological, microscopic, and chemical studies and analyses have been made during the year.

Tenement House Commission Report.—Robert W. de Forest, the Tenement House Commissioner of New York City, has transmitted to Mayor Low the first report of New York's new Tenement House Department. In it he says: "On January 1, 1902, a new department of the city government known as the Tenement House Department was created. Since that time all the tenement houses in New York have been examined and their condition ascertained. Tenement conditions in many instances have been found to be so bad as to be indescribable in print; vile privies and privy sinks; foul cellars full of rubbish, in many cases of garbage and decomposing fecal matter; dilapidated and dangerous stairs; plumbing pipes containing large holes emitting sewer gas throughout the houses; rooms so dark that one cannot see the people in them; cellars occupied as sleeping places; dangerous bakeries without proper protection in case of fire; pigs, goats, horses and other animals kept in cellars; dangerous old fire-traps without fire escapes; disease-breeding rags and junk stored in tenement houses; halls kept dark at night, endangering the lives and safety of the occupants; buildings without adequate water supply—the list might be added to almost indefinitely. The cleansing of the Augean stables was a small task compared to the cleansing of New York's 82,000 tenement houses occupied by nearly three millions of people representing every nationality and every degree in the social scale. The task that confronted the Department was not, however, limited to this. Without organization, without employees, with all its problems before it, it was on the very day that it came into existence confronted with an organized and vigorous attack in the legislature upon the fundamental principles of the law for whose enforcement it was created. Without previous records, with almost no information in re-

gard to the condition of the existing tenement houses, it was called upon to carry out an important and far-reaching scheme for their improvement, involving the structural alteration of over 40,000 buildings. In the period under consideration in this report a new branch of the city government has been organized, its machinery created and a force of about 400 employees trained, disciplined and educated; far-reaching and important advances in legislation have been secured as a result of the Department's action, and radical and vicious attempts to break down the tenement laws defeated. Living accommodations for 16,768 families, or 83,840 persons, have been provided in sanitary, comfortable and decent houses, each one of which has been built according to law; notorious evasion of and non-compliance with the laws has given place to their complete, uniform and impartial enforcement; the evil of prostitution has been practically abolished in the tenement houses; 337,246 inspections have been made; 55,055 violations filed; 21,584 repairs made to plumbing; 13,617 water-closets cleaned; 11,611 accumulations of filth removed from cellars and other parts of such buildings; 13,732 ceilings cleaned; 15,364 walls cleaned; 10,060 unsafe wooden floors removed from iron fires-escapes and new iron floors substituted; 1,701 fire escapes erected on buildings that before were without this protection. The registration of 44,500 owners' names has been secured, thus fixing the responsibility for bad conditions in the tenements; contagious disease has been checked and prevented; 32,825 citizens' complaints have been investigated and the conditions complained of remedied; and an important tabulation and presentation of the population in every tenement house block in the Borough of Manhattan has been prepared that will be of incalculable value to the city. The existing tenement houses have been frequently and systematically inspected; foul cellars have had the accumulated filth of years removed; defective and unsanitary plumbing which has apparently existed for long periods has been remedied; houses unfit for human habitation vacated; hundreds of houses have been radically reconstructed and improved; light has been let into dark rooms; vile yard privies and privy sinks have been removed, and the whole sanitary condition of the city raised to a higher standard. The results of this work are clearly reflected in the reduced death-rate, which in 1902 was 18.7 as compared with 20.0 in 1901, and in the first eight months of 1903 has been reduced to 18.0. To those who have borne the burden of the organization of the new department what has been done seems but a beginning—a first step in the endless fight against disease and death." The report is the most comprehensive report on this subject that has ever been made by a city department and will shortly be printed, in two volumes of about 1,000 pages. It will contain many photographs, plans, and other illustrations. One of the leading features of the report is a series of colored maps, showing population, density of population and the nationality and the number of families living in each block throughout the tenement districts of the Borough of Manhattan. The report includes, among other subjects, the following: Houses Unfit for Habitation, Citizens' Complaints, Periodic Inspections, Contagious Disease Inspections, Neglected Houses, Disease Houses, Condemnation of Rear Tenements, Municipal Tenements, Janitors, the Structural Improvement of the Old Houses, Privy Sinks, Dark Rooms, Fire Escapes, Prostitution, The New Law Tenement, Dampproofing, The Enforcement of the Law in New Buildings, Legislation, Opposition to the Department and Law, The Relation of the Department to the Public, The Registration of Owners' Names, Co-operation with Other Departments, Employees, Corruption Checked, Inspector's Equipment, Women Inspectors, Departmental Instructions, Organization of the Department, Plumbing, Cellar Rooms, Bakeries, Rentals and Vacancies.

PHILADELPHIA.

Dr. Van Lennep Honored.—The fiftieth birthday of Dr. W. B. Van Lennep, Professor of Surgery at the Hahnemann Medical College was celebrated December 5 by a banquet tendered him at the Hotel Bellevue by a number of physicians and surgeons of the city. Several toasts were responded to, and Dr. Van Lennep was presented with a silver punch bowl.

New Hospital at Uniontown.—The Uniontown Hospital, erected at a cost of $100,000, was recently opened for the reception of patients, five of whom were received the first day. The hospital, which is one of the best equipped in the State, will accommodate about 100 ward and 14 private patients. The staff includes 15 physicians.

The Typhoid Epidemic at Butler.—The typhoid epidemic at Butler, Pa., is now believed to be practically under control. The new cases are decreasing and the work of caring for the patients has been systematized by Dr. M. S. French, of Philadelphia, who is practically in charge. The twenty-five nurses sent from Philadelphia are looking after the patients in the Hospital of the City of Brotherly Love, which was organized in a vacant hotel. The hospital is in charge of Dr. L. H. McKinnie, lately a resident at Jefferson Hospital. Dr. F. C. Johnson, who was sent by Mayor Weaver to investigate the condition at Butler, has returned to this city and furnished an exhaustive report of the situation. He states that the epidemic was caused by the pollution of the sources of water supply, the serving of the city with unfiltered water thus polluted, and neglect on the part of the citizens, even after being warned to sterilize by cooking all articles of food and to boil all drinking water. The report states that the tragic feature of the epidemic is the fact that it was absolutely preventable and that with plenipotentiary powers in the hands of the Health Bureau it might have been prevented.

Observations on Aneurism and Arteriosclerosis.—The Mütter lecture on Surgical Pathology for 1903 was delivered before the College of Physicians of Philadelphia on December 1 by Dr. C. N. B. Camac, of Cornell University, who spoke on the above subject. Dr. Camac dwelt at some length upon the historical aspect of aneurism and the numerous theories regarding its causation. He then detailed the results of a long series of experiments made with the object of determining the nature of the change in the elastic tissue of the media which is probably the first change in the development of aneurism. He studied arteries from 33 persons, staining them all for the elastica. The arteries included both normal and abnormal conditions. Müller-formol was found to be the best fixing agent, and Weigert's stain gave the most satisfactory results. The elastic fibers in the diseased vessels were found to be straighter than normal in some instances and fewer in number, but they showed no change in histological structure. Dr. Camac next experimented with chemicals to determine if changes could be detected in this manner. Acetic acid and potassium hydrate were used as digestants, but the

latter was found not to be feasible. Acetic acid in from 5- to 15-per-cent. solutions was found to be available, but a long series of tests showed that no histological change could be demonstrated. The change in the elastica preceding aneurism is believed then to be a physical or molecular change. Regarding the relation of general arteriosclerosis to aneurism, Dr. Camac stated that it is not a necessary feature of the latter. Broadly speaking, the presence of arteriosclerosis suggests the probability that aneurism will not occur. Dr. Camac showed many microscopic specimens of the tissues studied. Before the lecture Dr. Camac was entertained at a reception given by Dr. George McClellan.

The Smallpox Situation.—Smallpox continues to increase, more than half of the wards of the city containing one or more cases of the disease. During the week ending December 4 there were reported 99 new cases, an increase of 29 over the preceding week. Since the beginning of the year, 1,579 more cases have appeared than were known during a similar period two years ago. Negroes are the greatest sufferers, as they, more than whites, refuse to be vaccinated. The following instructions to vaccine physicians have been issued by Director Martin: (1) Every vaccination shall be preceded by a preliminary cleansing, accomplished by means of green soap, alcohol and water; (2) the abrasion shall be made by means of a scarifier or lancet, which must be sterilized before and after each vaccination by flaming with alcohol; (3) the abrasion must not cause more than punctiform hemorrhage. When properly performed there should be no blood; (4) virus must be thoroughly incorporated with blade of lancet or with sterile glass rod; (5) when sufficient time cannot be given for arm to dry a piece of clean wax paper should be applied to abrasion and secured by strip of zinc oxide adhesive plaster; (6) all cases of vaccination shall be seen in the second week, and the date of the second visit must be incorporated in the report, together with statement as to whether vaccination was successful or unsuccessful, a failure to make report of the second visit relieving the city from all pecuniary obligation; (7) unsuccessful vaccinations must be repeated.

Obstetrical Society.—At the meeting of the Philadelphia Obstetrical Society, December 3, Dr. William R. Pryor, of the New York Polyclinic Medical School, by invitation addressed the Society on the subject of "Puerperal Sepsis." Following the address Dr. Pryor was entertained at a reception given by the President of the Society, Dr. J. M. Fisher.

CHICAGO.

Appointment of Dr. Biehn.—Dr. Joseph F. Biehn was certified to by the Civil Service Commission as city bacteriologist and superintendent of the milk and food inspection bureau, after passing a competitive examination. He was graduated from the Northwestern University Medical School in 1901, and has been instructor in bacteriology since that time. His salary will be $2,000. His duties as professor of bacteriology at Dearborn Medical College will not interfere with his work in the city laboratory.

Pathologist at Manila.—Dr. Maximilian Herzog, who for more than seven years has been Professor of Pathology and Bacteriology in the Chicago Polyclinic, has been appointed pathologist in the Bureau of Government Laboratories at Manila.

New Hospital.—The Hospital Daughters of St. Joseph are going to start work as soon as plans are made on a four-story fireproof hospital, to be erected on the east side of Harvard avenue, between Sixty-third and Sixty-fourth streets. It will be 180 x 80 feet, pressed brick and stone front, and will contain about 80 rooms, and 5 wards. The cost will be $80,000.

A New Institution.—A new institution will be built soon at North Forty-third avenue and Church street for the St. Joseph's Orphan Asylum. The various buildings will include a three-story fire-proof hospital, 60 x 170 feet in ground dimensions; two-story chapel, 62 x 32 feet, and one-story power and laundry plant, 42 x 40 feet. The total cost is estimated at $80,000.

Bone Changes in the Fetus.—In a paper on this subject, Dr. Frank S. Churchill said there were striking departures from the normal in the appearance and structure of bone, both macroscopically and microscopically. These changes are found widely distributed, but most frequently in the long bones, and especially in the epiphysis. The processes of cartilage production and bone production go on in rachitic bone, but in disturbed relations, cartilage production being excessive and ossification deficient. The result is a bone deficient in lime salts, thickened and flexible, and upon these characteristics depend the deformities seen in rickets. Over-cartilaginous production causes thickness; hence the bosses seen on the skull, the rachitic rosary, the broadening of wrists and ankles. Deficient ossification makes the bone softer, and more easily bent when exposed to the pressure of bodily weight and muscular action; hence the deformities of the spinal column and pelvis, the curvature of forearm, thigh and leg, the greenstick fractures. As the long bones increase in length by ossification at the junction of the epiphysis and diaphysis, shortening of the limbs is also seen, due to a failure of this process, producing a dwarfed effect. On section of a rachitic long bone, the principal change is seen at the ends, where the cartilage layer uniting shaft and epiphysis is seen to be much thickened and broadened, with irregular and ill-defined edges, unlike the narrow, well-defined line of the normal bone. This cartilage area is of a pluish color, is softer than normal, and the calcified spots are irregular and scattered. In the shaft, the outer layers of the bone are thickened and soft; the inner layers more thoroughly ossified, the medullary canal more vascular and resembling granulation tissue. Microscopically, the cartilage cells in the zone of proliferation are found to be piled up on each other, not arranged in regular columns. The line between cartilage and advancing bone is irregular, and not well defined. Eyelets of bone are seen in epiphyseal cartilage, and parts which should be completely ossified are still cartilaginous. There is also a great increase in the number and size of the blood-vessels. In the shaft are seen more or less thickening and increased vascularity of the periosteum. Instead of hard compact bone is seen irregular spongy masses. After a variable length of time, say from three to eighteen months, the active proliferation in the cartilage and periosteum ceases, and is gradually replaced by ossification. Condensation and retraction often occur in the spongy masses of bone, and the ultimate result is sometimes an ivory-like structure harder than normal bone, a condition noticed by surgeons operating upon patients who have suffered from rickets in early life. He described the less frequent changes that are found in the spinal column. He also mentioned the changes which may take place in the pelvic bone. The development of rachitis is preventable except among the extremely poor. Given a normal new-born infant, with a fairly intelligent mother, the physician can correct the first stage of

malnutrition, and by intelligent methods of feeding insure proper growth and development. But he must be keenly watchful for the first disturbance of nutrition, and then take vigorous action along dietary lines.

GENERAL.

Addition to Orange Hospital.—Plans are being considered to make a large and important addition to the Orange Memorial Hospital. The institution has been overcrowded for a long time, and it is planned to erect an extensive addition costing from $60,000 to $75,000. Work will probably be started early in the spring.

Psychopathic Ward in University of Michigan.—The psychopathic ward at the hospitals of the University of Michigan is now nearly ready for occupancy. The State made an appropriation for the cost, but the University added $5,000 from its own funds to fire-proof the upper part of the building. The University authorities felt that they could not be free from blame if any of the peculiar class of patients for which the psychopathic ward is constructed should be injured through lack of the greatest precautions against fire.

Arsenic in Food Ruled Against by London Commission.—The royal commission on arsenical poisoning from food and drink has recommended the prohibition of the sale of beer and other liquid food, or of any liquid entering into the composition of food, which contains one-hundredth of a grain or more of arsenic per gallon, and the prohibition of the sale of solid food containing one-hundredth of a grain per pound. The commissioners find there are serious defects in the present machinery available to safeguard the public.

British Food Statistics.—According to Major P. G. Craigie of the Royal Statistical Society, the annual food imports of Great Britain during the years 1889-91 amounted to $23.20 per head of population. Nearly half of Sir Robert Griffin's estimate of £11 per head as the average outlay for all forms of food and drink of the Briton is spent on imported foods. The use of meat had greatly increased. In the 1857-59 period sea-borne meat amounted to but five pounds per head; now it is over fifty-three pounds. He suggested that possibly this large increase in the use of meat had not been wholly beneficial in its effects on the health and prosperity of the nation.

Medical College Burned.—The medical college building at the University of Vermont was burned to the ground Dec. 2, 1903. The loss of $20,000 is covered by insurance. The building was presented to the university in 1884 by John B. Howard.

Physician's Certificate before Marriage License.—The Iowa Society for Suppression of Disease and Degeneracy has prepared a bill to be introduced in the coming general assembly providing for a physician's certificate of examination before a marriage license can be issued.

Medical Press Exhibit at the St. Louis World's Fair.—It is to be regretted, as a matter of history and of criticism, that no International Exposition has ever had an exhibit of the medical and scientific publications of America, as a collective and comprehensive exhibit. A few scattered displays made by individual publishers, or included in the general newspaper exhibits, were all that served to represent the American Medical Press either at Chicago or at Paris. It is true that at Buffalo a commendable effort was put forth by the department of press and publicity to keep on file the current issues of all American publications. This plan was only partially successful. Mr. Walter Williams, through the Missouri Board of Commissioners, is preparing an exhibit of journalism, but this will embrace only the publications of Missouri. The undersigned has secured adequate space at St. Louis, in the palace of Liberal Arts, with a view to making a display of American Medical publications which shall be commensurate with the importance of this class of work, and earnestly solicits the cooperation of editors and publishers of medical journals. Decisive action must be taken at once. The expense necessary to make this exhibit will be nominal. There is no charge for space, and the writer believes that the department of publicity will assist us in maintaining an up-to-date and comprehensive exhibit, where files of current issues of every medical journal in the land may be found during the progress of the great fair. Full information will be furnished later, and all medical journalists are urged to communicate at once with the undersigned with a view to united action and early endeavor so that additional space may be secured if necessary to accommodate all who desire to join the bureau. Chas. Wood Fassett.

Wheeling Medical Library Association.—The annual meeting of this association was held December 5. The proceedings consisted of reports of the Secretary and Librarian, Dr. W. H. McLain; President's Address, Dr. F. L. Hupp; Symposium Phototherapy. Short papers by Dr. J. S. McClellan, Dr. G. Ackerman, Dr. J. Schwinn. Discussions were opened by Drs. Wingerter and Noome. This is the sixth year of association, with a library which now contains 4,000 books and 25 journals on file.

Obituary.—Dr. R. D. Murray, a yellow fever expert of wide reputation, and dean of the Marine Hospital Service, died in Laredo, Tex., yesterday, from injuries sustained in a runaway accident a week ago. He was a native of Ohio, sixty-four years old, and was a Civil War veteran. For several years he held the chair of instructor of anatomy in a Cleveland medical college. He entered the Marine Hospital Service in 1872, and was in charge at Norfolk, Va.; Mobile, Ala., Philadelphia, New Orleans, and Key West, Fla. The interment will be in Bluffton, Ohio.

Dr. Horace M. Paine, who died last Sunday morning in Atlanta, Ga., was one of the best known homeopathic physicians in New York State. He was born in Paris, Oneida county, on Nov. 19, 1827. He was graduated from the University of the City of New York in 1849. He practised his profession in Clinton and Albany, in the latter city thirty-one years, and relinquished active work in 1895, since which time he had lived in West Newton, Mass., and in Georgia with his sons. He was one of the founders of the Homeopathic Medical Society of the State in 1850 and served it later as secretary and president. He was prominent in the long effort by which his school became legally recognized in New York. For twenty-one years he served as one of the State homeopathic examiners, was one of the first trustees of the Albany Homeopathic Hospital, an incorporator of the Middletown State Hospital and was largely instrumental in securing the legislation establishing the Gowanda State Hospital. He was a member of the American Institute of Homeopathy, the Hahnemann Association, of several similar local societies and an honorary member of many homeopathic societies here and abroad. He leaves a wife, to whom he was wedded fifty-one years ago; three sons, Dr. Howard S. Paine of Glens Falls, Dr. N. Emmons Paine of West Newton, Mass., and Dr. Clarence M. Paine of Atlanta, Ga., and one daughter, Miss Emily F. Paine of New York. Dr. John M. Paine, curator of the Metropolitan Museum of Art, is an only brother.

Dr. William H. Holmes died last Monday night in his home at 48 Hillyer street, Orange, N. J. He was

born in New York sixty-nine years ago. Dr. Holmes had lived in Orange for the past thirty-nine years. He had suffered from heart trouble and Bright's disease for a year and these contributed to cause his death. He served in the navy as an Assistant Surgeon during the Civil War, holding the rank of Lieutenant. He is survived by his wife, who lives in Jersey City.

Dr. Joseph M. Harcourt, who came from Ireland in the early '50s, died last Monday at his home, 110 Decatur street, Brooklyn, in his eightieth year. He was a member of the Kings County Medical Society. He was known as a linguist, a mathematician and writer on professional subjects.

CORRESPONDENCE.

RE "SPECTACULAR PROPHETS."

To the Editor of the MEDICAL NEWS:

DEAR SIR: Referring to the criticisms of your editorial on page 945, issue of November 14, 1903, there is one slight error, into which you have fallen, and which may be well to correct. Writing concerning another matter the editor of the *Boston Medical and Surgical Journal,* in a letter dated December 5, 1903, says, as regards the article on Francis Parkman, so courteously criticized by you:

"We are not in the least ashamed of having published it, and we can assure you that we have not been placed in a box thereby. On the contrary, we have no regrets whatever in having published it. As for the reproduction of the Parkman article in book form, we shall be very glad to have it appear as having been originally published in this journal."

The kindness and urbanity illustrated in your editorial toward me, I do not doubt, will move you to make amends to the editor of the *Boston Medical and Surgical Journal.* Toward brother editors one owes an especial consideration. Sincerely yours,

Philadelphia, Dec. 7, 1903. GEORGE M. GOULD.

SPECIAL ARTICLE.

BYWAYS OF MEDICAL LITERATURE.—XVIII.

STUDIES IN HUMAN NATURE.

PROFESSOR ELIE METCHNIKOFF, the distinguished Professor at the Pasteur Institute, who is probably one of the best known and certainly one of the best liked of living medicine men, has recently issued a book with this title "Studies in Human Nature" or an essay in optimistic philosophy. The original, of course, is in French, and while Professor Metchnikoff is a Russian, his French is idiomatically simple enough for any one who has a reading knowledge of the language. He dedicates the book to his wife and in closing the preface thanks especially his friend, Dr. Roux (who is, of course, the distinguished co-inventor with Behring of diphtheria serum), for having rendered his French more French. It is rather interesting to find the great pathologist, whose theory of phagocytosis has attracted more attention and been the source of more interest to scientists generally than perhaps any other medical theory invented in recent times, discussing what he calls the disharmonies of human nature and the possibility that there may be of making the disharmony concordant by a process of selective development especially under the influence and direction of men of science.

The third chapter of Dr. Metchnikoff's book contains a discussion of the possible Simian origin of man. Professor Metchnikoff does not seem to consider that this is as distant a possibility as many other biologists of the present time. He finds in the close relationship of the dentition of man and the apes and of the organization of their extremities and brain so many arguments for a relationship of descent. The resemblance between the vermiform appendix of man and of the anthropoid apes has for him much more than the force of merely a chance resemblance or an incidental analogy. The similarity between the placenta of the ape family and that of man and between the fetal development of man and of the anthropomorphic apes is for him an index of community of origin that is probably not very distant. His crowning argument, however, is the blood relationship between man and the apes, as that can be demonstrated by the fact that the serums from these two creatures have similarities as regards their hemolytic and precipitating powers which do not exist for animals farther apart from one another in the scale of life. This argument, of course, has only recently been exploited and so comes with apparently more force since the limits of its possible application are not as yet definitely decided.

Metchnikoff seems to be quite sure that a transmutation of species is quite possible and that this alteration need by no means necessarily involve a very long period of time or a very definite succession of minor modifications leading up to the complete differentiation of species. He cites the case of the famous lightning calculator, Jacques Inaudi, who demonstrates his skill in museums, etc., and who will be as familiar to most American medical men as he is to the French profession, since he has been on exhibition in this country, at least once, if not oftener. For Metchnikoff this case seems to show the possibility of the abrupt development of characteristics hitherto inexistent in the human species and that may possibly be transmitted and thus become the source of specific or even generic differences. The crux of the matter, unfortunately, is that usually these special peculiarities that make their appearance so unexpectedly in one generation are seldom transmitted to the next. While the Bach family has given birth in some two hundred years, it is said, to over forty distinguished musicians, it must not be forgotten that this is the only example of successive generations of a musical family on record, though there have been many other distinguished musicians besides the Bachs, and many musicians have had children besides the old baker, Vert Bach, who was responsible for the beginning of the musical proclivities of the Bachs.

Professor Metchnikoff finds not a few of the disharmonies of human nature in the organization and the exercise of the functions of the apparatus of reproduction. As a matter of fact he seems to consider that many of the drawbacks of present human life have their root in the disharmonies involved in exercises of the reproductive function. He has a very curious consideration of a practical character in this chapter that may be of interest to general practitioners. He suggests that in some cases of anemia doubtless the source or the toxic material which causes the destruction of red blood cells and consequently gives rise to chronic chlorosis, is due to a collection of microbes that find abundant nourishment in menstrual blood confined not behind an absolutely closed, but a very minutely patulous hymen. In these cases marriage and the rupture of the hymen with consequent free drainage of the vagina no longer furnishes this nidus for the growth of microorganisms and consequently there is the improvement of health not infrequently noticed in anemic young women after matrimony.

Metchnikoff's most interesting chapters from the social standpoint, however, are those in which he discusses the possibility of lessening the evils which result from the disharmony of human nature. The third part of

the book consists of the discussion of what science can accomplish for this purpose. Metchnikoff seems to be confident that an abiding faith in science will surely lead to great amelioration of the evils of existing conditions.

A rather interesting reflection at the present season of the year, when politics are so much on the tapis is found in the following paragraph: "In politics," Metchnikoff says, "the actual conditions correspond very closely to those of medicine in former times. Every individual of the male sex who has reached his majority is considered by the very fact to be sufficiently prepared for the exercise of all political functions, even the most difficult to be a rational voter, a sensible juror and the like. The only excuse for this state of affairs is the present infantile condition of social science. When sociology has become more advanced, the specialization comparable to that which has taken place in medicine will occur. It is only after this has happened that persons of years and discretion who shall have acquired extensive experience and be in the full maturity of their faculties, because of the integrity of their physiological condition will be able to render the greatest possible services to the society of the future. In this progress toward the true end of existence they will lose much of their liberty, but will gain in revenge a large amount of solidarity."

THE CONQUEST OF FIVE GREAT ILLS.

In *McClure's Magazine* for September, Mr. Cleveland Moffatt has an article on The Conquest of Five Great Ills, or The Great Work of the Pasteur Institutes throughout the world. The five ills that have been conquered are hydrophobia, diphtheria, lockjaw, bubonic plague and serpent venom. The demand of the popular magazines for articles of this kind, shows how deeply the public is interested in such advances in medicine. It would seem, however, that the articles with regard to them should come from medical men and not from regular literary contributors who may know how to write well enough, but who are sure to modify the facts of the case so as to make a better story.

This is what Mr. Moffatt has to say with regard to lockjaw: "As to lockjaw, the Pasteur Laboratory sends a steady supply of antitoxin serum that will prevent the outbreak of this disease, very much as hydrophobia inoculations prevent hydrophobia. In both cases it is true, the treatment is only preventive, not curative. But this is usually sufficient, since the danger is plainly indicated in advance. If by some sad oversight, hydrophobia does break out, it always kills just as it always has killed. But with lockjaw there is still a chance of saving life, even after an outbreak, by inoculating lockjaw antitoxin directly into the brain. The record of recovery is forty per cent."

We have just gone through our annual epidemic of tetanus in this country, and we are trying to impress people generally with the hopelessness of disease. There are certain milder cases of lockjaw or tetanus that run a chronic, or, at least, slow course, from the beginning and that are always hopeful, usually recovering without difficulty under any treatment. Certainly the physicians of this country are not ready to believe that forty per cent. of acute tetanus cases can be cured, even by intracranial injections of lockjaw serum. Our experience in this country with injections beneath the dura, has not veen very favorable and in Europe the practice has had a distinct setback since the first favorable reports were made. It is better that the public should have the truth in this matter, rather than have false hopes raised, that can not be fulfilled in practice. The difficulty lies in making clear to a non-medical writer the limitations of a method of treatment and the fact that very often when it is of most interest to medical men it is as yet only on trial.

A SOCIAL DISEASE.

A blind beggar was arrested not long ago in this city, and when taken before the magistrate on the charge of vagrancy and violating the city ordinance which forbids soliciting alms on the public streets, confessed that he did not have to beg for his support, as he was comfortably provided for, but that having nothing else to do he did it for pastime. He explained: "I only do it for pleasure. I can't see like other people and I would go mad if I sat in the house all the time. I do it to have something to keep me outdoors. I don't have to do it, as my brothers will take care of me, if I ask them to do so." This may seem a curious and paradoxical means of recreation to most people, yet there are many will sympathize with the blind beggar in his craving for something to do that would keep him outdoors. Some one said not long ago that the only justification for a housedog in cities is that it may serve the very beneficent purpose of tempting some elderly lady to take much more outdoor exercise than would otherwise be the case for the sake of a pet dog, who needs the air and the exercise so badly.

The New York *Times*, commenting on the incident of the blind beggar, says: "This blind man is a type of a very large class of persons not all mendicants by any means, but all incapable of other pleasure in life than that which comes from the close and often degrading pursuit of a painful occupation, after the necessity for concentrated toil has passed. There are in New York City some thousands of very wealthy men, who follow business for the same reason that the blind mendicant followed begging. They cannot read or think, or take pleasure in any form of intellectual recreation like other people, and if compelled to sit idle all day, would be at least profoundly unhappy. They perhaps have not the quality of brain to go mad in a conventional sense, or it may be they are already insane on the subject of acquisition and are incapable of any form of pleasure than that which is profitable in money returns. However, this may be, the case of many a merchant and financier is very closely parallel to that of the blind beggar, who could not be content, except when begging."

Such men are often the despair of their physicians, who realize the necessity for some change of occupation, and yet find it practically impossible to convince their patients of the advisability of taking the needed vacation. Usually the pretense is the necessity for their presence in order to secure the smooth-running of their multitudinous business affairs. The real reason is that the habit of a lifetime, the making of money, has become a fixed idea, a pathological entity of itself absolutely controlling mental processes. It is the new disease. The desire for the accumulation of money for which the subject has no real need and which he seeks for no good reason. We have thought that perhaps the presentation of the beggar's case and of the sensible discussion of it, from the standpoint of what is pathological in it, might be of service to the practitioner in some of these difficult cases. Anyhow the case deserves a place in memory. The *Times* very appropriately adds that "the individuals afflicted with this new social disease are commonly the objects of misplaced sympathy. No doubt in their way," the editor concludes, "they are as happy as other people."

PHYSICIANS AND LITERATURE.

The distinguished literary member of the English medical profession who was honored by being raised to knighthood on the occasion of the coronation, Sir Arthur Conan Doyle, is announced as preparing new triumphs for himself by pursuing once more the adventures of

Sherlock Holmes. Novel readers generally consider that Dr. Doyle had effectually disposed of Sherlock Holmes by having him go over a precipice in the Alps. Fiction is stranger than truth in this case, however, and the physician-novelist is able to accomplish the impossible and bring his hero to life once more. This is one of the advantages of romance over life. So many disadvantages in fiction have been pointed out of late years, especially for instance, the fact that the deaths exceed the births so much in novels that it is only a question of a comparatively brief time, until the stock of available heroes and heroines for romance will die out that it is a pleasure to find romance has some great compensations in its favor.

Dr. Doyle is announced as interested in another phase of reproduction besides his literary work. He has bought all the patent rights on a process for reproducing marble busts by a method resembling the pantograph as applied to the enlargement of pictures. It would seem as though subsidiary occupations were to prove more lucrative than the mere practice of medicine. One is forcibly reminded of Dr. Oliver Wendell Holmes' expression with regard to literary men in which he so charmingly improved upon Samuel Taylor Coleridge. Coleridge had said "A literary man should have some other occupation," to which Oliver Wendell Holmes added "and, as far as possible, he should confine himself to the other occupation." As is well known, Dr. Holmes did not follow his own rule very faithfully. If we are to judge from recent successful invasions of the literary field by physicians, of which there are now many notable examples, the form of the expression will, for twentieth century use, have to be modified into something like the following: "All physicians should try their hands and make use of their medical experience in adding to the world's literature. If it pays, they should, as far as possible, confine themselves to the new occupation, since it brings not only money, but glory." If the new maxim will only help to deplete somewhat the overcrowded ranks of the profession we wish it all possible mandatory influence.

HOW MUCH TO EAT.

J. M. Barrie, who seems to be able to do anything, has just produced in London a successful comedy, of which the hero is the stomach. Probably no other dramatist alive could handle such a topic, full as it is of widespread human interest. The American world especially now reeks with dyspepsia cures: No breakfast, no lunch; meat diet, vegetable diet; few meals, many meals; regularity, variety; small quantities and large. A man may cut his allowance down to steak and toast, and still have indigestion. He may feed on lobster salads and ale at midnight and prosper grossly. A German alderman advised us, many years ago, to cure all interior problems by two matutinal mugs of beer. We were turning over the *Autocrat* a day or two ago, brooding upon how human standards change. The poem therein called "Contentment" has for its comic idea luxurious wishes masquerading as simplicity. "A ruby, and a pearl, or so, will do for me; I laugh at show." How is dinner treated on this principle? By assuming that *three* courses are extravagant. "Plain food is quite enough for me: Three courses are as good as ten." That, in 1857, was as if to-day we should say "Ten courses are as good as twenty." The allegation that "man wants but little here below" has to be interpreted in the light of change. It may at least be assumed that, whatever he gets, it is less than he wants. As Holmes puts it, "I only ask that Fortune send a *little* more than I can spend," which is a large order for Fortune. Luxury, now so dominant with us, has, among its other consequences, led to gross overfeeding, in the attempt to get amusement out of meals, but just how much and what to eat, in individual cases, remains one of the questions which often baffle the most successful doctors. —*Collier's Weekly.*

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OPHTHALMOLOGY.

Stated Meeting, held Thursday, November 5, 1903.

The President, Andrew H. Smith, M.D., in the Chair.

Lesions of the Eye, which Occur in the Course of Diseases of the Heart, the Blood-Vessels and the Kidneys.—This was the paper of the evening and was read by Dr. Charles Stedman Bull, who said that the intra-ocular circulation furnishes a visible picture of the condition of the general circulation and is thus of great diagnostic value in diseases affecting the circulation. In anemia for instance, the papilla is apt to be much paler in color than normal, and if during the ophthalmoscopic examination even gentle pressure is made upon the globe, the veins and arteries are emptied. Spontaneous hemorrhage from the intra-ocular vessels is prone to take place under these circumstances, while on the other hand retinal hemorrhages from high tension of the arterial circulation occur quite often and are followed by the appearance of white patches showing traces of the degenerative process by which the effused blood has been reabsorbed.

Central Scotomata.—Large blind areas occurring in the center of the field of vision are usually a sign of the rupture of the arteria centralis retinæ. Such a rupture of this artery may, however, occur within the nerve sheath a considerable distance back of the eye, without producing any visible change within the eye. In these cases the central scotomata are at first hard to explain. When aortic insufficiency exists there is a pulsation of the retinal arteries easily noticeable with the ophthalmoscope and an alternate flushing and paling of the disc may be readily noted in advanced cases. This corresponds with the capillary pulsation which is noticed in other parts of the body, but which occurs on the eye ground before it is visible elsewhere, and thus becomes a valuable early diagnostic sign of the insufficiency of the aortic valve. With stenosis of the aortic valve such a pulsation is absent, so that this may constitute a differential diagnostic sign between the conditions.

Venous Congestion.—In many forms of heart disease a general venous congestion occurs, and this is visible also in the dilated and tortuous veins of the retina. Such general venous congestion may occur particularly in mitral heart disease and may in advanced cases cause a pulsation of the retinal vessels. Changes may be noted, however, in the conformation and function of the retinal vessels when there is no patent heart disease or true disease of arteries, though in these cases there will usually be found some latent disease of the heart or kidneys. Endocarditis in its various forms may produce symptoms on the eye-ground which usually are in the form of emboli with subsequent thrombosis. In rheumatic endocarditis it happens not infrequently that emboli find their way into the retinal vessels, causing temporary blindness over some portion of the field of vision. This form of endocarditis is benignant in its effects, and usually recovery is quite complete. Malignant endocarditis, however, as might be expected from the fact that it is a septic condition gives rise to emboli which set up septic processes and produce serious consequences. An embolus of the central artery of the

retina is always a serious condition, since this is a terminal artery, and the collateral circulation does not make up for the hindrance to the blood-current. This may in certain cases be the first sign of endocarditis. The patient usually becomes totally blind in the eye, and if the circulation is interrupted for any length of time, the retina takes on a grayish color, and as the result of nerve degeneration, the blindness becomes permanent. If only a branch of the central artery is affected the opacity is limited, but the blindness may be permanent over this area. If severe cases of arterial degeneration, miliary aneurisms may be noticed on the eye-ground and are of pathognomonic significance. These occur, as a rule, only in people beyond middle life in whom there are advanced arteriosclerotic conditions. In old patients, however, they are a warning of the possibility of the rupture of an artery in the brain, and patients with such signs should be told of the danger they are in from apoplexy. Sometimes when retinal degeneration is visible in the eye-ground the carotid arteries are so thickened as to be quite palpably degenerate. The underlying pathological condition in these cases is usually syphilis. When nervous lesions exist causing deviation of the eyes, the direction of the deviation may be pathognomonic of the position of the lesion. If the deviation of the eyes is toward the affected side the lesion is in the pons. If the deviation is away from the affected side, the lesion is above the pons. With regard to thrombosis of the venous sinuses, the symptoms in the neighborhood of the eye may be of more diagnostic significance than other physical signs. Usually there is paralysis of the oculomotor nerve with consequent inability to move the eye. If the conjunctiva and soft tissues in the neighborhood of the eye are affected by edema, then the lesion within the skull is not far behind the eye itself. This usually indicates the thrombosis of the lateral sinus.

Albuminuric Retinitis.—In acute nephritis very often the first sign of the occurrence of infection of the kidneys is the presence of edema of the eyelids. In severe cases this may even lead to chemosis, that is, edema of the ocular conjunctiva. Affections of the iris often occur in kidney trouble. Changes in the choroid are also noticed, commonly, however, in conjunction with arteriosclerosis accompanying the kidney trouble. The ocular muscles are said not to be affected in pure kidney disease. When such symptoms occur, there are usually hemorrhages into the nerve roots or the nuclei from which spring the nerves that supply the various muscles.

Prognosis.—When nephritis gives symptoms in the eye, especially when chronic nephritis causes retinal degenerations, the prognosis is always bad, but ameliorations of the condition are not infrequent. It is sometimes asserted that death will take place usually within two years after patches of retinitis albuminuria are discovered. This is not an absolute rule, however, and refers rather to dispensary and hospital cases who are very seldom in a position to take that care of themselves necessary in order to prevent progress of the ravages of nephritis. When the lesions are very marked, death will usually take place within a year. In 62 per cent. of Dr. Bull's cases, the fatal termination came within six months. Seventy-five per cent. were dead at the end of the year. All of the patients that could be traced were dead at the end of two years. Other observers say that about six per cent. will be alive at the end of two years. The importance of this condition is readily understood then, and the characteristic appearances should be familiar to every one. Usually there are yellow, stellate patches around the nerve ending. These are frequent near the macula lutea, and especially between that spot and the disc. Edema of the retina sometimes occurs, leading to folds in this structure and consequent detachment with loss of vision. The primary change, however, is in the blood-vessels, and all other changes are secondary. As the retinal vessels are terminal arteries, the collateral circulation does not compensate for their deficiencies, hence the outspoken character of the lesions. Retinitis albuminuria is usually bilateral, but this does not necessarily mean that it must occur simultaneously, nor that both retinæ shall be affected to the same degree. The very curious fact is that vision is not affected always to the extent that might be expected from the ophthalmoscopic picture. At times, very few lesions can be seen, yet there is great disturbance of vision.

Retinitis and Pregnancy.—If albuminuric retinitis occurs during the early stages of pregnancy, labor should be induced. Where there is a distinct amount of albumin in the urine, and the characteristic signs on the retina, it is worse than useless to wait, for abortion will probably take place anyhow, but at a time when neither mother nor child can be saved. If there are changes on the retina in the latter part of pregnancy, then this rule does not hold. For instance, during the last month of pregnancy, there should be no question of the production of premature labor. If the retinal symptoms develop before six months, however, the safest course is to have labor induced. This depends, in Dr. Bull's experience, somewhat on the condition of the arteries. If the arteries are in good condition the albuminuric retinitis of pregnancy is not dangerous. If the arteries in the eye-ground, however, look like white cords and the capillaries are blocked, then the nerve and its distribution throughout the retina will surely atrophy, if the kidney insufficiency is not relieved by removal of the fetus.

Uremia.—The condition of the eye is extremely important in chronic interstitial nephritis, because the arterial condition can be so well recognized here. When there are severe lesions on the eye-ground, especially if there are exacerbations of the ocular condition, they must be accepted as a warning of the danger of the development of uremic intoxication. The onset of uremic coma may thus be anticipated and measures taken to prevent it, or its occurrence put off, to see that the patient is put in proper condition for its treatment, so that relief may be afforded without delay.

Dr. F. P. Kinnicutt, in opening the discussion on Dr. Bull's paper, said that the occurrence of edema and of other constitutional symptoms during kidney disease, are often attributed to toxemia consequent upon kidney insufficiency, but there is some difference of opinion in the matter. The main question is whether the retention in the blood of excrementitious products brings about the toxemic condition, or whether, as a consequence of the retention of such products, an abnormal metabolism was set up, which of itself produced toxic substances.

There is in the system under conditions of kidney insufficiency an accumulation of urea and creatinin and other such products, that are not simply the result of retention, but must be due to increased production. Such toxemias may produce amaurosis. This occurs typically during severe acute scarlatinal nephritis. At times, when there is rapid diminution of the amount of urine passed. In these cases the point of selection of the action of the toxins on the nervous system is the visual tract. Rapid recovery is the rule, but the subsequent history of such cases, has not been followed in a sufficient number of patients to enable authorities to judge as to whether there may not be a deteriorating influence on vision afterward. The neuroretinitis of chronic interstitial nephritis is an index of an advanced condition of kidney degeneration and usually means a fatal issue within two years. The kidney trouble may

date back over many years, but once it begins to affect the retina the end is not far off, as a rule. There are exceptions, however, which indicate that more careful study will have to be given to this question before absolute prognosis can be formulated. Dr. Kinnicutt cited some illustrative cases in which, notwithstanding the appearance of neuroretinitis, patients subsequently recovered their vision and remained for many years without any further symptoms.

Illustrative Cases.—One patient, at the age of forty-eight years, noticed that his vision was much dimmer than it had been. What first called his attention to this fact was his inability to see well enough to mend a bicycle tire. He was heating a wire for this purpose, but when the wire became hot, the dimness of vision incident to watching the flame lasted so long that before he could use it for the purpose intended, the wire became cold. Observation with regard to his vision showed that in the right eye lights were seen edged with red, and there was a spot in his vision. Albumin was discovered in his urine, and the case looked very serious. He recovered much of his vision, however, as a consequence of careful treatment, and has had no further disturbance of vision and no deterioration of his general health now for about eight years.

Rapidly Fatal Cases.—On the other hand, Dr. Kinnicutt's experience has shown him that the occurrence of albuminuric retinitis may be followed by a fatal termination in a comparatively short time. In a recent case, the first symptoms of kidney trouble were digestive disturbances followed by paroxsmal dyspnea less than six months ago. Bilateral neuroretinitis developed in the course of the affection. In less than six weeks after the first symptom the patient died. It must not be forgotten that diabetes may also cause retinal lesions, and that a complication of diabetes and nephritis is not unusual, especially toward the end of diabetes. In a recent case under Dr. Kinnicutt's care, the patient's mother had died of diabetes, but notwithstanding the presence of a carbuncle some five years ago there was no suspicion of any glycosuria in her case, until eye symptoms developed.

Pathology of Albuminuric Retinitis.—Dr. Ward A. Holden said that the course of pathological lesions in the eye are not always easy to trace, but that albuminuric retinitis seems to begin with diffuse edema of the retina and the optic nerve. This leads to disturbance of the blood-vessels, and before long hemorrhages develop. During the course of the degeneration of the hemorrhagic patches white spots develop. When hemorrhages occur near the macula lutea they are small in size, and are more frequent producing the speckled appearance familiar in so-called albuminuric retinitis. It may be said at once that there is no true neuritis and no actual retinitis present. The edema that occurs first is due to serous exudation from the blood-vessels, and this follows the course of the nerve fibers. The hemorrhages that follow are not due to rupture of the arteries, but to diapedesis, because of the outwandering red blood-corpuscles through the diseased vessel walls. The white patches that develop subsequently are due to fatty degeneration of these red blood-corpuscles. Capillary hemorrhages occur from the deep retinal capillaries which have a tendency to converge toward the macula lutea, hence the characteristic picture presented in these cases.

Venous not Arterial Hemorrhage.—Dr. E. Gruening said that notwithstanding all the investigation made into diseases of the eye, we, as yet, have comparatively little definite information with regard to many of the affections whose symptoms appear upon the eye-ground. Dr. Gruening has never seen arterial hemorrhage in the eye, unless the arteries were very much diseased. Hypertrophy of the heart alone is never sufficient to cause rupture of the arteries. Venous stasis within the eye is rather easy to recognize with the ophthalmoscope and much can be done to correct it by modification of intra-ocular tension by means of properly directed massage.

The Eye in Apoplexy.—Dr. John Winters Brannan said that the eye symptoms of apoplectic conditions are anomalous and often fail to be of diagnostic significance. This is illustrated very well by two recent cases that have been under his care. In the first, a married woman of some forty years of age, who had borne seven healthy children but had no serious illness, was found to be suffering with some very slow-running diffuse nephritis. Casts and albumin were present, though there was no enlargement of the heart. She became unconscious in her bathroom one day, and evidently suffered from a slight apoplectic seizure, for after her unconsciousness passed off, hemiplegia of the left side remained. She recovered completely from this. Notwithstanding the presence of albumin and casts, there were no eye symptoms at any time. In a second case, a woman, also of some forty years of age, suffered from an apoplectic stroke which affected the right side of the body with the left side of the face and a loss of vision on the left side. The eye muscles on this side were also affected. While she recovered from the hemiplegia of the body and regained control over her facial muscles, the palsy of her eye muscles continued. The presence of albumin and casts in these cases must not always be taken as indicating that a nephritis is at work. Nearly always after apoplexy, casts and albumin are found in the urine, but they pass away after a few days and it would seem that their presence was due to the shock rather than to any actual kidney lesion present before the apoplectic stroke.

Difficulties of Diagnosis.—Dr. T. R. Cooley said that while there is a voluminous literature with regard to intra-ocular disease and especially with regard to the change produced in the eye as a consequence of affections of the arteries, the heart and the kidneys, there has been very little real advance, and science is almost tediously slow in its progress. With regard to so-called diffuse senile changes which occur in the retinal vessels, Dr. Cooley has always found it extremely difficult to differentiate them with assurance from changes due to syphilis. Even in old persons it is important to make inquiries with regard to a possible syphilitic history. If they are syphilitic much can be done to relieve them by mixed treatment. In a recent case under Dr. Cooley's care, the age of the patient, over sixty-five years, seemed to render it unnecessary to inquire with regard to syphilitic history. Yet the condition observed on the retinal arteries proved eventually to be due to syphilis. It is curious to realize that there may be large amounts of albumin and casts in the urine without any albuminuric retinitis. On the other hand, occasionally small petechial hemorrhages occur in the eye, which seem to indicate the presence of Bright's disease, yet no albumin can be found. In some of these cases Dr. Cooley has seen Bright's disease develop later. The appearances in the retina then must always be considered suspicious, even though no albuminuria can be demonstrated. With regard to the albuminuric retinitis of pregnancy, it is important not to give a bad prognosis until the case has run its course. Dr. Cooley has seen a retinitis of pregnancy with detachment of both retinæ, followed by reattachment and excellent vision after the induction of premature labor.

Ocular Emboli.—Dr. Knapp said that Professor Billroth, of Vienna, was the first to suggest, in one of his lessons in pathology, that the occurrence of embolism and the consequences of the lesion might be studied in the only set of visible arteries, namely those in the eye.

Within three days after he made this suggestive remark, a case of embolus of retinal vessels was studied and described in one of the clinics of Vienna. This is of itself the best proof that the condition of the vessels of the eye may well be taken as an index of the vascular system throughout the body.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, held Thursday, December 3, 1903.

The President, Andrew H. Smith, M.D., in the Chair.

The Problem of Keeping New York City's Streets Clean.—This was the title of the paper of the evening, by Dr. John H. Woodbury, Commissioner of Street Cleaning of New York City.

Former Conditions.—Dr. Woodbury gave a series of stereopticon pictures in which he showed the condition of New York streets when he took charge of them two years ago. Hester Street, at that time was a crowded thoroughfare constantly filled with a compact mass of people, crowded around the push carts, so that it was impossible to properly clean it. Rivington Street was the same way. Along the curbs of both these streets there were open market carts, adding further by their refuse to the difficulty of cleaning the streets and keeping them clean. Dr. Woodbury dwelt on the fact that streets were the public highways and that the abuse which allowed push-carts in large numbers on them was an unwarranted diversion from the true purpose of maintaining a thoroughfare.

Establishment of Fish Market.—On Rivington Street especially, the nuisance of the push carts became greatest, because here all the fish food was sold for the neighboring streets of the crowded lower east side. Fish in all stages of decay were offered for sale in the midst of a dusty, dirty thoroughfare, and the waste material from the sales inevitably found its way to the street to add further to the noisomeness of the conditions. In order to do away with this nuisance and make the maintenance of clean streets in this neighborhood possible Dr. Woodbury established Rivington Street Fish Market beneath one of the arcades of the new Williamsburg Bridge. At first it was impossible to make the foreign-born peddlers understand that this new market was intended for their use without any payment. After a few of them had experienced what was the real purpose of the change the others flocked in, and now it is not so difficult to keep the streets clean and clear in the neighborhood. Dr. Woodbury insists that other such improvements must be made in other parts of the city, and that markets for other food materials must also be established. Many food materials have been sold from these push carts on the open streets and the number of germs present in the air in these crowded thoroughfares makes this eminently undesirable. Bread, cakes, biscuits and candies are exposed, and various forms of delicatessen. The children are likely to suffer most from such street-exposed food, as they are least resistive to bacterial invasion, and are less likely to be squeamish about what they eat. Thus the matter of street cleaning becomes very important in the summer time for the maintenance of the public health. It must not be forgotten that a city's health is the function of its most unhealthy portions, and that the slums of the lower East Side may easily prove a source of infection even for upper Fifth avenue.

Street Cleaning Methods.—The Commisioner of Street Cleaning must maintain the cleanliness of 1,076 miles of streets. In the more crowded portions of the Borough of Manhattan, particularly, many of these streets must be cleaned twice a day. Wherever the old block pavement remains the only possible way of securing cleanliness is by the man with the broom, the shovel and the bag. In very crowded streets the same thing is true. It is impossible to send a street-cleaning machine through Fifth avenue in the busier portions of the day. The employment of so many men requires organization and esprit de corps. The men employed must be treated as if part of a military company and discipline maintained by military methods. So much was acomplished in establishing this system by Col. Waring, however, that now it is not difficult for his successors, if they have the good will, to maintain it. It is important that asphalted streets should be thoroughly cleaned, in blustrous weather particularly, as the dust from them is likely to be even more noticeable than from rougher paved streets. The dust represents to the medical men a collection of many kinds of germs. For cleaning asphalt, when the temperature is above 50°, the only thing that is effective is a stream of water delivered at high pressure over the surface of the pavement. For this purpose street-cleaning apparatus in which water can be kept at a pressure were invented by the French, and are now in use in this city. Several of them were exhibited in pictures that delivered a stream of water under 20 atmospheres of pressure. This forces the water toward the gutter line and thoroughly cleans the street. Water wagons are also employed in front of the tank of which there is a gas engine, by which a pressure of 100 atmospheres can be secured in the water tank. This cleans asphalt very effectually. So far a lack of sufficient appropriation for the purpose has made it impossible to secure more than a few of these.

The Ash-cart Nuisance.—Up to the present time the loading of ash-carts and the carting of ashes along the streets in the open carts has been one of the great city nuisances. Clouds of fine dust were blown about to settle on everything, to be raised again by the wind and be a continuous bother and irritant for respiratory passages. On a March day a goodly proportion of the ashes seemed to get back into the air. The attempt to abate the nuisance by means of a cloth cover proved a failure. For a time then a wooden cover was employed, beneath which the dumping of the ashes could be secured. As a result of various trials and experiments Dr. Woodbury has finally adopted a large steel wagon completely covered, and with a roll-top desk opening. This not only abates the nuisance of dust, but gets rid of the unsightliness of the old vehicle.

Disposal of Garbage.—Under the old system of carrying the garbage out to sea in dumps and scows there were many serious objections. Much of the material was carried back into the next tide to decorate the bathing beaches in the neighborhood of the city, and be not only a nuisance, but a source of danger to health. The floating material from these scows made the waters near New York unsightly, and the solid material in the opinion of experts was sure eventually to create a bar just at the entrance to the harbor. Under the system introduced by Dr. Woodbury these objections are all done away with. All the garbage material contained in the ashes is taken out and the ashes are used for filling in near Riker's Island. Already a large amount of new ground has thus been made which will eventually be very valuable. In the meantime the dumping scows, especially those of the Delehanty pattern, are held in reserve for emergencies in case the present system should prove insufficient for some special reason, as for instance if a fire or some other serious unforeseen accident should cripple the department's resources.

Classifications of City Waste.—There are three classes of city waste that must be disposed of, each of which requires some different treatment. These are

garbage, rubbish and ashes. By garbage is meant the kitchen waste of houses and hotels, commonly called swill. By rubbish is meant all the household material that, being no longer of use, is left to the street-cleaning department to dispose of. This includes beds, bedding, old furniture, old trunks, boxes and receptacles of various kinds, of different degrees of uncleanliness, and all the broken material of the household. Under ashes is included of course a certain amount of broken material, tin cans and other articles that do get inevitably into the ash pans.

Garbage Disposal.—All the swill material is now taken to Barren Island. This is all organic and extremely offensive material. Here, by means of a reduction process, the watery material and gases are taken out of it, and a compressed, inodorous residue obtained after the digestion of all the organic material. In order to prevent the nuisance, formerly so marked, all ill-smelling smoke from the Barren Island plant and the gas from the digesters are thoroughly washed before being allowed to escape into the air. This unfortunately leads to the loss of an immense amount of valuable ammonia. The sweepings of streets and other organic material constitute the best of manure and is now sold in quantities to many parts of the country. This forms a constant source of revenue.

Rubbish.—This material often contains articles that may still prove useful and always has in it an immense amount of valuable material for fuel. The handling of it is no longer not only not an expense, but is a source of revenue to the city, since a contracting company more than pays for the collection of it for the permission to take out of it any material that may seem of value. The residue is now being used for heating purposes and will surely prove of value. Even after the rubbish has been burned the residual ash has such a high potash content that it is an extremely valuable material.

Disposal of Ashes.—On February 14, 1902, the department began to dump ashes into an open crib near Riker's Island for the purpose of increasing the size of the island. Sixty-three acres have so far been reclaimed from the ocean very effectually, though certain problems have had to be solved that were unexpected. The East River is deep and clear, and has little mud but a strong tide. The setting in of this tide makes work difficult at Riker's Island, and on one occasion, at least, caused considerable damage to the construction work there carried on. The distribution of ashes and the leveling of new-made ground is confided to convicts, the labor being cheap, but quite as poor as it is cheap. The convicts employed are mainly the tramps and vagrants. Belt conveyances are employed to distribute the ashes at a distance from the barges, and so far there has been excellent results obtained from them.

Street Bacteriology.—By exposing agar plates at varying heights from the ground, Dr. Woodbury succeeded in getting bacteriological maps of the atmosphere in the most thickly settled district. Hester, Rivington and Oak streets gave so many bacteria after thirty minutes' exposure that not more than fifteen minutes of exposure could be employed and even then many hundreds of bacterial colonies developed on each plate. Exposures of the same kind made on upper Fifth avenue and Madison avenue gave very few bacteria and only a few molds. Pell Street was found reasonably clear of bacteria, though containing a number of molds in the atmosphere. John Chinaman is not unclean, though the presence of organic products in his neighborhood when living in thickly settled districts may invite the presence of molds. Mulberry Street, in the Italian quarter, gave an uncountable number of colonies after fifteen minutes' exposure and a single hour's growth in an incubator. Washington Market proved to be nearly in the same condition and the photograph of the plate taken shows what danger there is in the exposure of moist food products in the air under such circumstances. Many food materials are almost as good nutrient media for bacteria as agar is. As a rule the number of bacteria are directly proportional to the denseness of population in a given neighborhood. As a rule, too, these thickly populated districts fairly swarm with children. This adds to the danger to the health of the individuals because the population contains such a large proportion of the young non-resistive elements. It is not an unusual thing on the lower East Side to have 20 families to every 25 feet street front, and these 20 families will number at least 50 children among them. This gives a better idea for the necessity of cleanliness in these thickly populated neighborhoods and for the special vigilance of the Street-Cleaning Commissioner, if the Board of Health is not to have its work greatly added to.

Utilization of Rubbish.—An experimental plant for the separation of whatever useful materials there might be in the rubbish collected in the street-cleaning departments and the burning of all inflammable material has been established at Forty-ninth Street. This furnishes enough heat units to supply lights for the stable at Fifty-second Street, leaving a large surplus of heat to be wasted. The bill for lighting this stable before was nearly $6,000 annually. This is a direct saving. It formerly cost the city about $500 a week to get rid of this material, while now the revenue from those who have the opportunity to select whatever useful material there is in it is $250 a week. When to this is added the new saving in the matter of lighting the city will find this material an important source of revenue.

Experimental Work.—This is only experimental as yet, but there is no doubt that on a large scale it will prove even more lucrative than has been represented. The plant is situated on a dock over the river, it is inefficient according to our present scientific knowledge; it is not well located; it is not industrially well arranged, yet at the present time it is actually saving the department over $10,000 a year. This gives some idea of how much can be accomplished when the problem is approached scientifically. It is surprising how much of the waste material can be used over and over again. Even the tin cans that form so large a part of the rubbish collected by the street department are now shipped to a factory on Long Island, where, by means of heat, the solder and tin are melted off to be again utilized. Even the steel plates are not entirely useless and are used for roofing purposes and other objects.

Problem of City Lighting.—One of the largest items of expense which the city government has at the present is that of lighting. There is no doubt that much of this can be supplied by plants erected in connection with the rubbish disposal plants. As a consequence of this, too, the boxes and barrels, the floating material of various kinds that formerly used to be taken down the bay and, after dumping in the ocean, floated back with the tide to be scattered over the beaches, making an unsightly condition and a very unhealthy state of affairs for the bather, can be destroyed under absolutely aseptic conditions and their usefulness as fuel is easy to understand. Of course, during the two years that Dr. Woodbury has been in charge of the department only a beginning of this scientific treatment of refuse has been instituted. The new administration, however, will find this beginning of such a nature that they can easily raise a superstructure of important retrenchment for the city within the department of the Commissioner of Street Cleaning.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

SECTION ON CLINICAL MEDICINE AND SURGERY.

Stated Meeting, held Friday, November 6, 1903.

A Study of 337 Cases of Enteric Fever in Children.—Dr. S. S. Adams, of Washington, D. C., reported his series of cases from the Children's Hospital of Washington. The clinical features of enteric fever in children have been variously interpreted, the typhomalarial cases having been at one time excluded and at another included under this diagnosis. Dr. Adams' experience has led him to doubt the immunity of children to typhoid fever, which is claimed by some authorities. The majority of his cases occurred in the late summer months, and they differed only in degree from the adult cases. Epistaxis occurred in 50 per cent. Of 210 cases, 31 had hemorrhage, and 18 died. Mental changes were often present, one case of fatal hemiplegia and 6 of posttyphoid insanity being noted. In 75 cases the diazo-reaction was positive and in 4 cases (all fatal) cancrum oris occurred. Thirty-seven cases showed typical lesions post mortem, and in 11 there were perforations. The fever was usually remittent in type and fell by lysis. Rose spots, though often observed, were less common than in adults and bed sores were seldom seen. There were 32 relapses in the series and of 70 cases in which the Widal was tried 50 were positive. The mortality for the whole series was 14.2 per cent., but of the cases occurring since 1899 the mortality was 10 per cent. The general management of the cases was, in recent years, about the same as that of adult cases. Hydrotherapy was used quite freely and intestinal antiseptics discarded as useless after fair trial. During the period when the Brandt treatment was used the mortality was about 11 per cent.

Dr. Atkinson said that in the typhoid fever of children the absence of rose spots, the presence of constipation rather than diarrhea, and the mild course are the most striking features. The temperature is usually easy to control and should be treated with baths and not with antipyretics.

Dr. Osler said that there can be no question of the immunity of *young infants* to typhoid fever. Dr. Griffith, some years ago, could only find 300 odd cases in the whole literature. It must be remembered that children's hospitals, like the one where Dr. Adams' series of cases was treated, function as "dumping-grounds" for the community, and the worst cases, therefore, occur in them. This explains the relatively high hospital mortality. Dr. Platt mentioned the features of about 90 cases of typhoid fever occurring in a children's hospital in Baltimore. The treatment was expectant, no antipyretics were used, and the cases were, as a rule, mild. Constipation was almost always present. A case of typhoid fever was reported in a seven months' old child taken from a mother with typhoid. Dr. Apt's series of 200 cases of typhoid in children was reviewed. One hundred and ninety-eight gave a positive Widal, 55 showed rose spots, 2 had perforation, and 10 per cent. relapsed. The general opinion was that the typhoid fever of children in Baltimore is milder than the disease in other cities. Dr. Adams said that his series included every death during the course of the fever, no matter what the cause, 4 cases of undoubted typhoid having died of tuberculosis. Severe cases are undoubtedly seen, but so long as the fever remains within bounds and mental disturbance is absent little treatment is needed.

The St. Louis Hospital, of Paris.—This hospital, founded by Henry IV. in 1657, is now a great medical center for the study of syphilis and skin diseases. Four things make this true—First the enormous number of patients, second the character of the men on the hospital staffs, third the liberal laboratories, and fourth, the splendid museum and library. The wonderful St. Louis collection of models of skin diseases is of great use to any one interested in this department of medicine. All of these are life-like, but the models of the various forms of drug rashes and of the erythemas are particularly good. The great Foulard library, with its perfectly complete collection of works in all tongues, dealing with syphilis and skin diseases, is easily accessible to students.

Congenital Dislocation of the Hip.—Dr. Platt showed a case of this affection. The patient was a girl of ten years, who, a few years ago, had shown only a slight disability of the hip. This had since become much worse and telescoping of the limb had occurred. The case showed two characteristic features of congenital dislocation—free rotation of the head, the trochanter remaining almost stationary, and the failure of the lumbar spine to move with any motion of the affected leg. The ligamentum teres was probably absent in this case and the open operation was advised by Dr. Platt.

Meeting held November 20, 1903.

Blastomycetic Dermatitis and of Epithelioma of the Nose Cured by X-ray Treatment.—Dr. Gilchrist exhibited this case.

Treatment of Bow-Legs and Knock-Knee.—This paper was read by Dr. R. T. Taylor, who said that in the treatment of rachitic deformities braces have been found expensive, tedious and uncertain. Three operations may be done: Osteotomy, osteoclasia and epiphyseal lysis. The real cause of these two conditions is an abnormal curve of femur, tibia or both, and not a lengthening of the internal condyle as the text-books say. The aim of the treatment is "centric correction"—that is, an operation performed at the apex of the deformity. Osteotomy has given good results in aseptic cases, but infection has occurred and has caused serious trouble. Osteoclasia is quickly done, is free from the dangers of sepsis, never results in delayed union and leaves a hinge of bone which keeps the fragments together when healing. A new osteoclast working on the lever principle was presented. It was claimed to accomplish its purpose almost instantaneously, and therefore to require little anesthesia.

New Method of Recording Rotation in Lateral Curvature of the Spine.—This subject was also presented by Dr. Taylor. The patient was placed on the stomach, a yard stick laid over the back with the middle point at the spinous process of the vertebra, and the angle made by this stick with the line of the floor measured by means of a right-angled triangle graduated for the purpose.

Dr. Platt, in the discussion, said that after the fifth year the bones harden and braces are useless, but good results are obtained before this age. Later operative procedures must be resorted to. Osteotomy is usually the preferable operation, and must always be done in the sabre-shaped deformities with forward bend. Many cases of bow-legs are seen in children and few in adults and probably nature cures many of these patients.

Dr. Taylor said that knock-knee may be outgrown, it is true, but one cannot prophesy in any given case, and so have no right to trust to it. Epiphyseotomy, though mentioned as an operation, is really impossible. Blanchard tried it in several cases, but he always got a tear of the lateral ligaments of the knee and of the biceps tendon.

Brisement Forcé Treatment of Clubfoot.—This was the subject of Dr. Sidney M. Cone, who said that

modeling methods in orthopedic surgery are based on Wolf's principle, that the structure of bone is modified by the function which it has to perform. Wolf was a German engineer who became a surgeon, studied carefully the mechanics of bone deformity, and left very careful photographic records. In his treatment the affected limb is put up in plaster and molded while this is soft. Two weeks later the position is further corrected by a second molding, and by repetition of this process the required position of the limb is finally obtained.

Dr. Taylor, in discussing this paper, said that Wolf's work ought to lead to the abolishment of the pernicious treatment of clubfoot by operative removal of bone.

Dr. Platt said that many surgeons do remove bone to correct this deformity, and the results are good, though, of course, not perfect. The procedure is, however, a rational one.

Dr. Cone said that brisement forcé ought to be used preferably in young cases, but Lorenz tried it first in a man of twenty-eight years with perfect results.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, held at the New York Academy of Medicine, November 9, 1903.

The President, Andrew H. Smith, M.D., in the Chair.

The Treatment of Lobar Pneumonia.—A discussion of this subject constituted the scientific business of the evening. It was opened by Dr. Glentworth R. Butler. He said there were few diseases in which the prognosis is so variable in the individual case. Recovery will occur in some under any circumstances; others prove fatal no matter what treatment is adopted, and in a third group the outcome is apparently dependent upon the timely and energetic use of accepted therapeutic methods. Yet the general mortality varies little from decade to decade, while the incidence of the disease, in consequence, it is believed, of the prevalence of epidemic influenza, is increasing. There is as yet no specific for lobar pneumonia. The statistics regarding therapeutic methods are peculiarly liable to error because of great natural variations in the mortality rate which are largely dependent on three conditions: (1) age; (2) the presence of previous degenerative or other disease, particularly of the heart and kidneys; and (3) the varying virulence of the infective agent. There is no unanimity of opinion respecting the use of antipneumococcus serum, and in all probability the specific treatment for the disease will be found in the discovery of an antitoxin which will counteract the toxemia of the disease, although it is contended by some that lobar pneumonia is not a bacterial unity and may be caused by other pathogenic organisms than the pneumococcus of Fraenkel. A common fault in considering the treatment of this disease lies in an insufficient appreciation of the very considerable natural variations in the duration of the attack. As it is quite impossible to forestall the probable duration of the individual case, the claims of certain over-enthusiastic observers who profess to have aborted the disease must, perforce, receive the Scotch verdict, "Not proven." Owing to the variable elements referred to, few diseases require a larger number of cases to furnish reliable therapeutic data, so that statistics, to be really trustworthy must be based upon thousands, rather than hundreds, of cases, all subjected to the same treatment, under approximately similar conditions. Dr. Butler did not wish to be considered as advocating therapeutic nihilism; on the contrary, he believed it criminal to allow a grave case of pneumonia to sink to a fatal termination without the use of remedies and measures which have, so far as human judgment can determine, more than once turned the scale in favor of life.

Routine Measures and Precautions.—In considering the therapeutic management it is convenient to consider first the mild and uncomplicated, second, the severe or complicated cases. It should not be forgotten also that by the development of grave symptoms a case of the first class may shift into the second. There are certain routine measures and precautions which are required in every case, whether mild or severe. The room should be especially well-ventilated in order that the laboring lungs may receive air containing the maximum percentage of oxygen. Nothing is gained by the overload of bed-clothing so commonly seen, and personally he has long since discarded the pneumonia jacket in this form of the disease, unless when especially requested. The objections are that too much bedclothing or swathing the trunk in cotton tends both to keep the fever at a somewhat higher point than would otherwise be the case, and also adds materially to the discomfort of the patient. It is desirable that the body clothing, which should be of medium thickness, should be so arranged (by splitting part way up the back, if necessary) as to permit physical examination with a minimum of disturbance to the patient. Undue physical diagnostic zeal is to be avoided. Other points of importance are: Absolute rest in the recumbent position, with the use of the bed pan and urinal, and the free and regular giving of water, plain or mineral, both for eliminating toxins and keeping the renal tubules flushed out. For the latter purpose 8 to 16 ounces of normal saline solution by the rectum is also often of service. The diet should be that usually given in fever. In speaking on this point he said that one or two ounces of lactose daily, tasteless and easily soluble in most fluids, is a really helpful food, and may furnish many needed calories. Medicinally, at the onset of every case a small dose of calomel is of benefit; also a dose of 7 or 8 grains of quinine, given preferably by hypodermic injection, and repeated the following day.

Creosote Carbonate.—Creosote carbonate is a remedy in which he feels a certain amount of confidence. While he could not say that in any case the duration of the disease was shortened, under the use of this drug it tended to run a milder course, the temperature-curve, instead of remaining persistently high, dropped a little from day to day until at the time of crisis it had but a comparatively slight distance to fall to the normal or below. Also, there was apt to be a distinct diminution in the intensity of the toxemic symptoms, less delirium, less tremor, less cardiac weakness, and less meteorism. While it is impossible to believe that creosote acts as a germicide in the blood and tissues, he said, these results (noted in about forty cases), if confirmed by sufficient additional observation, are suggestive of a possible autotoxic action of the remedy.

To Relieve Pain and Cough.—Pain should be relieved preferably by a mustard draft, poulticing, or the ice-bag; using also, if necessary, morphine hypodermatically or Dover's powder by the mouth, in the smallest doses that will accomplish the desired purpose. In rare instances a tight chest bandage is efficacious. For irritating cough, steam inhalations of menthol and benzoin may be employed. Narcotics are to be avoided, if possible, but morphine and Dover's powder are often necessary. The treatment just outlined is all that is required for mild cases.

The Treatment of Severe Cases.—Delirium, restlessness and persistent insomnia may require one or more of the following: trional, bromides, Dover's powder in small doses, chloral (10 grains) cautiously, cam-

phor, hyoscine hydrobromate (1/100 gr.), with morphine (1/8 gr.) hypodermically, and the ice-bag to the head. Hyperpyrexia. Unless the temperature is continuously at or above 105° F. it is probably not worth while to attempt to lower it. The hypodermatic use of quinine is helpful; also the ice-bag to head and chest. The employment of the cold tub is unjustifiable, except occasionally in children, but the cold mitten rub has given excellent results not only in reducing temperature, but also because of its tonic action upon the nervous system. This may be repeated at intervals of from three to six hours when the temperature remains persistently at 105° F. or higher. In the first rub the water employed may be at 85° F., the second at 80° F., the third at 75° F.; subsequently not below 65°. Tympanites, which is an extremely undesirable occurrence because of its mechanical interference with the action of the diaphragm and heart, is probably less liable to occur when creosote carbonate is regularly given. When it appears, the following measures may be employed: Cutting down the nourishment (not the water) one-half, or suspending it altogether for twenty-four hours; a moderate dose of calomel and soda; enemata, plain, or containing turpentine, musk, or milk of asafetida; the use of the rectal tube. To stimulate the muscular coat of the bowel the following are useful: momentary intermittent rubbing of the abdomen with an ice-water cloth; 20 grains of quinine bisulphate and one-fiftieth grain of atropine by enema, or half these doses hypodermatically; 1/120 of a grain of eserine sulphate by the mouth every four to six hours. The latter is especially recommended.

Oxygen.—Cyanosis, when arising from restriction of the respiratory movements in consequence of pain, is lessened by relief of the latter; when due to cardiac weakness or pulmonary edema it requires treatment of the special cause. Dr. Butler is a believer in the use of oxygen, in spite of the many contrary criticisms, because he has found in a majority of cases that when properly given it lessens cyanosis, slows the respiration, and affords a distinct sensation of well-being to the patient. The ordinary inhaling mouth-piece should invariably be replaced by a glass funnel of three or four inches diameter, and the latter should be held, an inch or so away, over the nose and mouth. Small doses of oxygen at frequent intervals are best. It is well to direct the nurse to allow the bubbles of gas to come about at the rate of 150 per minute, thereby avoiding useless waste of a somewhat expensive commodity.

Cardiac Weakness.—Cardiac weakness is perhaps the main source of danger in pneumonia. Circulatory impairment in the early stage of the disease is in all probability due for the most part to the depressing effect of the toxemia on the central vasomotor apparatus; in the later stages and during convalescence, to acute myocardial disease. Strychnine, the muscle energizer and central vasomotor stimulant, is a remedy of the first value. One-fortieth or one-twentieth grain, or even more, should be given every two hours, and it should be administered hypodermatically if prompt action is desired, or if there is the least doubt as to its absorption by the stomach. Next to strychnine is caffeine, either in the form of the citrate, or, better, as strong black coffee—one to two ounces every two to four hours. Brandy, whisky, the stronger wines, camphor, and aromatic spirit of ammonia are useful adjuvants; digitalis, nitroglycerin, strophanthus and sparteine may be given in full doses. An occasional dose of atropine and quinine bisulphate hypodermatically is of service, and the rectal administration of strong coffee with whisky or an emulsion containing 30 grains of musk may be called for in urgent cases. The possible usefulness of the powdered suprarenal, or its active principle, should also be borne in mind. Swathing the thorax in flannel wrung out of hot mustard water is often advantageous. The use of morphine in small doses (1/60 to 1/15 grain, repeated or increased according to circumstances) will accomplish results obtained by no other drug; quieting and soothing the patient and steadying and improving the action of the heart. Especially if constipation, flatulence, or edema be present, calomel and compound jalap powder, in full dose, may act very happily; or some saline may be substituted. The subcutaneous administration of a pint or two of normal salt solution is a resource not to be neglected in grave cases.

Pulmonary Edema.—This demands in particular repeated dry cupping, hot mustard fomentations, calomel and jalap, large doses of nitroglycerin, moderate doses of atropine, and the free use of oxygen. The judicious physician will constantly endeavor to carry through the individual case with watchful expectancy, the least possible of meddlesome therapeutics, and the careful conservation of the patient's strength. While, however, giving as little active treatment as the case will allow, he will not hesitate to employ the most active and vigorous treatment when it seems indicated, making use of every measure which clinical experience has proved to be of value, though even slight.

Creosote and Quinine not Beneficial.—Dr. A. A. Smith said he was thoroughly in accord with most of the views advanced in the paper. His experience with creosote, however, was of a character contrary to that of Dr. Butler. In his hands it had proved of no benefit whatever, with the exception of cases where the disease was confined to one lobe and there was a general bronchitis present. He had also found it useful, in small doses, in tympanites. Neither could he endorse the use of quinine, except it might be on account of the presence of occasional special conditions, and stated his conviction that in the large doses in which it was formerly given the depressing effect of this drug had sometimes led to fatal results. Like Dr. Butler, he advocated the use of oxygen, and said that he had often seen good results from it when there were cyanosis, pulmonary edema, etc. There appeared to him to be certain objections to the mitten rub. These were purely clinical, such as disturbance to the patient. For the application of either cold or heat he preferred the use of flannel wrung out of water and constituting a compress. To serve the best purpose it was necessary that it should be applied to a large surface of the body, and he believed that this measure was a valuable respiratory and circulatory stimulant, and, above all, a marked nervous sedative. Recently, he had obtained good results by keeping the flannels at a temperature of 90° F.

Cardiac Weakness.—Personally, he was a firm believer in the very pronounced influence of the nervous system in producing cardiac weakness, and he thought it was through this that we could best afford support to the heart. It was through the agency of the nervous system that strychnine was so beneficial. Alcohol was apt to be given too early and too freely. It should be administered in moderate quantities, and in the majority of instances was not required at all. It was of great value, however, in cases occurring in chronic alcoholics, and here it should be begun very early, as the active delirium apt to be met with in such cases has a most disastrous effect upon the nervous system. Nitroglycerin was a great aid to other remedies, such as strychnine and caffeine, and was absolutely safe.

Dr. George L. Peabody thought the treatment might be divided into (1) an intelligent symptomatic treatment, and (2) an attempt at a specific or definite treatment. As to the first, delirium seemed to him one of the most troublesome and grave symptoms, and in his

experience delirium with high fever could not be well treated by means of drugs. These were greatly inferior to hydrotherapy, and although Dr. Butler considered it unjustifiable to put a pneumonia patient in the tub, he believed that he had convinced several generations of hospital internes that the cold bath, precisely as used in typhoid fever, was the best treatment for raving alcoholics with high temperature. If this method seemed too heroic (the patient being very feeble), or if there were delirium without sufficient fever to justify the cold bath, he was accustomed to use the cold pack, for which he thought linen greatly superior to woolen or cotton. In speaking of specific treatment he said that he quite agreed with Dr. Butler as to the necessity of a very large number of cases in order to arrive at any definite conclusions. He would only give his experience with a limited number for what it was worth. He had been favorably impressed with the salicylates. Aspirin was an excellent way of giving salicylic acid. Under its use patients appeared to stand the disease better than otherwise. Crisis was uncommon; lysis the rule. During February, March and April, 1903, he treated 43 cases with creosote carbonate. In these lysis was noted in 48 per cent., and crisis in 21 per cent. Thirteen patients, or 30 per cent., died. He was not yet convinced that we have any specific for pneumonia. At present he considered it the best plan to employ an intelligent symptomatic treatment, in addition to the administration of one of the so-called specifics.

Venesection.—Dr. Herbert F. Williams said there was one measure which, when properly used, outweighs everything else in importance. By venesection the overburdened heart is relieved, the blood robbed of an appreciable quantity of exudation product, and the pneumonic process thereby limited. It is most apt to be called for in the robust and well-to-do, whose fund of health seems contributory to the intensity of their pneumonia. The statistics of our fathers in the treatment of such cases, he thought, would not suffer in comparison with those of their sons. In lesser pneumonias, even lobar, pain is often an early and obstinate symptom, and can be relieved better by other means than opiates. The seat of the pain is in the pleuræ, and by a unique anatomical and physiological association of the cutaneous intercostal and visceral nerves we can influence the circulatory condition in the pleuræ by directing the current towards the surface. This is the *rationale* of the law of counter-irritation, and, as applied to pneumonia, it cannot be better secured than by wet cupping directly over the inflamed point. The contingent effect of the immediate relief from pain thus afforded may be more radical upon the pneumonic process than one would lightly suppose; for the relief of pain permits a full inspiration. He had often seen a bronchial respiration thus reduced to bronchovesicular, and believed that wet cupping was not only a safe, but a mandatory, procedure in early pneumonia.

The Failure of the Right Heart.—Dr. C. F. Wainright said that as it was the right heart which failed, the pulse did not afford an adequate indication of the true condition, and dwelt upon the cardiac results of sepsis. There was an effort made at compensation, and the evidence of the condition of the heart (with stagnation of blood in the right ventricle) was seen in dyspnea, edema of the healthy lung, and prune juice sputum. Calomel was of great service in unloading the portal circulation, and was also one of the best remedies to dilate the peripheral vessels. Nitroglycerin or sodium nitrate might also be employed for this purpose. If the heart had not been previously enfeebled, digitalis and strophanthus were called for.

The Prevention of Pneumonia.—Dr. H. W. Berg said that the disease could be prevented. It was now pretty well established that pneumonia is an infectious disease; we could even go a little further and call it a contagious disease. He had known of instances in which two or three cases occurred in the same family, and in his service at the Willard Parker Hospital it was his practice to separate the diphtheria patients who had pneumonia from the others. He thought that in pneumonia the same precautions should be taken as regards sputa, bed-clothes, etc., as in pulmonary tuberculosis; also that the healthy members of the family should not be subjected to the risk of contracting the disease.

Differences Between Pneumonia in Adults and in Children.—Another point to which he desired to call attention was the great difference between the pneumonias of children and of adults. Bronchopneumonia was a very serious disease in children. Croupous pneumonia was much less serious in them, and in this form of the disease his recoveries had amounted to 98 per cent. The child heart was much less susceptible to the deleterious action of the pneumococcus than the adult heart. In children there was one method of treatment that was very efficacious—namely, the cold pack (not the wet), applied every half-hour, or even quarter-hour, if necessary. He did not dare employ this in adults, except sometimes for the purpose of relieving pleuritic pain. He believed that the use of morphine was injurious in pneumonia, drying up the secretions and diminishing the chances of recovery. He would consder it justifiable only when necessary to relieve pleuritic pain.

SOCIETY OF GERMAN PHYSICIANS.

Seventy-fifth Annual Meeting, held at Kassel, September 20-26, 1903.

Portals of Entry of Plague Infection.—Contrary to a good many physicians, Schottelius believes that the plague germ is rarely inhaled, but generally enters the system through some loss of continuity of the skin. The local lesions are frequently small, and may readily be overlooked. Occasionally the infection starts from small cracks in the mouth or isthmus of the fauces. The infection of the lung is secondary to implication of the deeper cervical glands. The white race is relatively immune, and only poorly nourished individuals are apt to become affected.

Treatment of Articular Rheumatism with Antistreptococcus Serum.—Subacute cases which have resisted other treatment are especially benefited by serum, which has not, however, any specific action, according to A. Schmidt. Fifteen to 20 c.c. are injected daily for eight days in the region of the joints. The more distinct the reaction, the more likely the patient will be benefited.

Chronic Interstitial Pneumonia.—Damsch describes a slow, chronic pneumonia, non-tuberculous in character which leads to increased rigidity of the lungs without contraction or the formation of bronchiectatic cavities. Fever is generally absent, and the chief danger lies in displacement or relative insufficiency of the heart.

Roentgen Rays in Carcinoma of the Breast.—A remarkable case is demonstrated by Kronfeld. The carcinoma had ulcerated and formed multiple metastases in the skin and axilla, so that operation was excluded. After the third treatment the severe lancinating pains diminished and the ulcer stopped secreting. Four months later the entire tumor was replaced by scar tis-

sue, and the patient's condition had improved remarkably.

Urethrism.—A spasm of the urethra, similar to vaginism, is described by Ziemssen. The treatment consists in slow dilatation with injection of water into the bladder.

Leucocyte Count in Appendicitis.—Rehn believes the practice of counting the white cells to determine the pathological condition of the appendix superfluous and even dangerous, since valuable time is lost. Even when the figures diminish rapidly, pus may be present in large quantities.

Rare Symptoms of Ectopic Testicle.—A boy thirteen years old gave all the typical signs of appendicitis and was treated for such. The following day, Wohlgemuth was surprised to find the patient completely recovered. The symptoms had been caused by an ectopic testicle which had forced its way through the inguinal canal.

Intussusception.—Braun believes that acute invagination is due to a spasm of the intussusceptum and not to a paralysis of the intussuscipiens. The diagnosis is generally easy; healthy children are suddenly seized with tenesmus, vomiting and bloody diarrhea and lose ground rapidly. The tumor can often be felt. Chronic invagination is recognized with difficulty. The only effective treatment is operation. Acute cases should be operated so early that desinvagination is possible; for chronic cases entero-anastomosis is to be preferred. Resection gives good results only in adults.

Kredel was unable to reduce the invagination and prefers resection, though all of his cases died. Nevertheless, operation is indicated, since spontaneous cure is extremely rare. Replacing the intestines is often very difficult, even if the dilated gut is incised. The very first day should be chosen for operation.

Treatment of Tuberculous Peritonitis.—In both exudative and adhesive tuberculosis of the peritoneum, laparotomy offers much better chances than puncture or expectant treatment, according to Thones. Only the latter is, however, indicated in florid phthisis.

Treatment of Purulent Peritonitis and of Fat Necrosis.—The danger of collapse in purulent peritonitis is best avoided by means of saline infusions; 3½ liters should be used at once and 20 liters on the following day. The results are also satisfactory in fat necrosis of the peritoneum.

Treatment of Congenital Dilatation of the Colon.—High enemata, puncture of the dilated intestines, enteroanastomosis, preternatural anus and resection have all been recommended for Hirschsprung's disease, but the value of each method has not been definitely settled, since the condition is very rare. Braun removed the sigmoid flexure in one case.

Tuberculosis and Pregnancy.—Tuberculosis is a very grave complication of pregnancy, and it is frequently advisable to induce abortion in order to save the mother. Though some patients do surprisingly well, a fatal hemorrhage may appear at any time. Veit recommends an accurate control of the body-weight. When the patient steadily gains, abortion is never permissible, when she loses, removal of the fetus will hardly check the morbid process. The important thing is to cure the tuberculosis before permitting the woman to become pregnant. Even where the parents are in advanced stages of phthisis, healthy chilren may be reared.

Contraindications to Marriage.—According to O. O. Fellner patients should not be allowed to marry if suffering from progressive pulmonary tuberculosis, laryngeal tuberculosis, mitral stenosis and other valvular lesions with loss of compensation, myocarditis, chronic nephritis and malignant tumors. In married women, subsequent pregnancies are contraindicated in severe chorea, mental disease, severe epilepsy, tuberculosis and Basedow's disease. Eclampsia does not interfere, since it rarely recurs.

Prevention of Tuberculosis.—The views of Behring are rather iconoclastic, for he believes that tuberculosis is always acquired by way of the alimentary canal. The infection always dates back to infancy, during which period the bacilli only too readily wander through the walls of the intestines. Bovine and human tuberculosis are therefore identical, and a curative agent obtained from the spleen of immunized animals is promised.

Relation of Functional Nervous Diseases to the Female Sexual Organs.—B. Krönig has frequently noticed that diseases of the sexual tract accompanied by severe hemorrhage and prolonged inflammation, can set up neurasthenia in its typical form. Physiological function, such as labor, if rapidly repeated may also be responsible. Hysteria may have a similar causation. Sexual abstinence is of no importance in bringing about disease. Sexual abuse impairs the nervous system less frequently than in the male. The importance of slight lesions has often been overestimated; this is especially the case with lacerations of the perineum, movable retroflexed uterus and posterior parametritis. Certain symptoms, instead of being the cause, are merely part and parcel of the hysteria; this applies to dysmenorrhea and the vasomotor and trophic disturbances of the menopause. Neurasthenia and hysteria do not exclude local treatment; on the contrary, they may make this imperative, as in the case of fibroids with recurring hemorrhages which increase the severity of the symptoms. Conservative operations must not be regarded as severe psychical results when compared with those on other organs. In especially severe cases of neurasthenia abortion may be necessary, but castration is only justifiable if the woman is near the menopause.

Protection of the Fetus against Infectious Disease.—Most infectious diseases may pass from the mother to the fetus in utero, but the latter seems to have a high degree of immunity since the antitoxins pass through the placenta earlier than the toxins. W. Hahn points out that the powers of resistence vary considerably; in tuberculosis they are very high.

Treatment of Chronic Gonorrhea.—The reason why urethritis is so difficult to cure in women is because the follicles and ducts are generally infected. E. Falk, therefore, splits them and treats all the recesses with the Pacquelin. In the uterus, weak solutions of protargol or lysol are excellent. If exudates are found in the tubes an abdominal operation should be performed only if a general peritonitis has developed, or if a neighboring organ has been perforated. In other cases, the vaginal radical operation is performed, but where the tube lies close to the vagina it may be simply incised and irrigated.

Etiology of Kraurosis Vulvæ.—Jung looks upon kraurosis vulvæ as the end stage of a chronic inflammatory process which may be set up by gonorrhea, pruritis, tuberculosis or carcinoma.

Salivary Glands in Infants.—Contrary to most observers, Schilling could demonstrate the presence of an amylolytic ferment in infants nine days to six months old. The parotid and pancreas are also active at this age.

Peptonized Milk in Intestinal Disturbances.—Diluted, peptonized milk tried by Reinach in chronic intestinal derangements of children, did not prove a success, but acute disturbances were favorably influenced. Microscopical examination of the feces is an invaluable aid in determining how a certain preparation agrees with the child and the food should be so modified that neither fat, carbohydrate nor proteid appears in excess in the stool.

Enterocatarrh of Infancy.—Salge isolated the blue bacillus previously described by Escherich from the stools of a number of cases of severe acute enteritis with toxic symptoms. All attempts to demonstrate pathogenic properties by growing on different media and by animal experiments failed, however. The toxicity in the human body probably depends upon the production of acids.

Trophodermatoneurosis.—A new disease, noticed in female children between one and a half and three years is described by Selter. It manifests itself in marked psychical disturbances with profuse perspiration, sudamina and red swelling of hands and feet. The duration is three to four months, the prognosis favorable.

Size of Thymus Gland.—The thymus gland throws a distinct shadow upon X-ray plates, which, under normal conditions during infancy, is only slightly broader than that of the vertebral column. A hypertrophied gland was found by Hochsinger in 20 cases of congenital stridor, that is, a type of respiration, especially loud at the end of inspiration. A large thymus was also found in 23 of 32 cases of rachitis.

Laryngitis Aphthosa.—Aphthous stomatitis is generally harmless, but Zuppinger has seen several cases where it extended into the alimentary tract and larynx. In the latter location there may be decided danger of suffocation. The treatment calls for the energetic use of permanganate of potash locally, inhalation of steam and warm compresses to the neck.

Treatment of Constipation by Hypnotism.—By means of hypnotic suggestion the sluggish innervation of the intestines may be increased where all other measures have failed. Delius has not only relieved the immediate condition, but has accomplished permanent cures. Equally good results were obtained in functional diarrheas.

A New Carbonated Bath.—Fisch recommends his carbonated baths in which the carbonic acid can be accurately dosed so that a gradual increase is possible. They are indicated in chlorosis, anemia, circulatory disturbances and during convalescence.

Etiology of Fever.—Klemperer has conducted some experiments which prove that rise of temperature is not caused by albumoses set free by the disintegration of body-cells. Albumose obtained from yeast and freed from bacteria, never sets up fever when injected into animals. When allowed to stand until all the proteid is destroyed, small amounts are already active, which is probably due to tyrosin formed.

Portal of Entry of Tuberculosis.—In almost a thousand autopsies on children who had suffered from some infectious disease, only five cases were found here tuberculosis involved only the intestines and mesenteric glands. Almost 25 per cent. had tuberculosis elsewhere. Ganghofner uses these figures as argument that bovine tuberculosis plays only an insubordinate role in the etiology of human tuberculosis.

Surgical Treatment of Chronic Nephritis.—Both incision of the capsule and decapsulation are occasionally justifiable in chronic nephritis as they may be the only means we have of prolonging life. Rehn suggests great care in the selection of cases as the operation may hasten the end.

Regeneration of the Ligated Saphenous Vein.—Ledderhose has convinced himself repeatedly that tying the saphenous vein does not always cure varicosities of the leg. In cases that were operated a second time he noticed a complete regeneration of the excised portion.

Sterilization of Catgut.—v. Hippel finds that catgut preserved in an aqueous iodine-iodide of potash solution will be sterile in one and a half hours. The iodine absorbed by the catgut will exert an antiseptic action upon the wound. Absorption is not delayed and the strength of the ligature is not impaired.

Relation Between Diphtheria and Scarlet Fever.—Uffenheimer's investigations were inspired by the difference of opinion which still exists as to the frequency of true diphtheria in scarlet fever. In 182 cases of the latter disease there were 127 with membranes and of these, bacilli were found in 30 per cent. In 11 per cent. there was a primary diphtheria, in 16 per cent. scarlet fever and diphtheria appeared at the same time and in 3 per cent. the diphtheria appeared later. The first class gave the worst prognosis. Sometimes Loeffler bacilli were found with only slight follicular inflammation, while in the most extensive membranes they were occasionally absent. Compared with former years, scarlet fever with throat affection has increased, but the specific germ was found less often.

Ehrlich's New Reaction.—Neubauer has discovered that the red color which forms if urine is treated with a solution of dimethylaminobenzolaldehyde in hydrochloric acid is due to urobilinogen. The reaction is especially marked in pneumonia and some blood and liver diseases. Absence of reaction in icteric urine points to complete occlusion of the choledochus or hepaticus. Bile and feces will also react since both contain urobilinogen.

Alkaptonuria.—This peculiar condition is now considered to be a manifestation of faulty metabolism. Falta believes that in normal individuals the tyrosin molecule of albumin is also converted into homagentisic acid and then further decomposed. In alkaptonuria the process is not, however, carried so far so that this acid appears in the urine.

Salt and Fluids in Heart and Renal Disease.—From purely theoretical premises, Strauss thinks it more advisable to diminish the sodium chloride in renal dropsies, while in cardiac dropsy, restriction of fluid is more important.

New Method of Measuring Temperature.—Weintraub obtains a continuous record of temperature by means of small elements introduced into the rectum and connected by long wires with a galvanometer. Variations as small as one-twentieth degree could be indicated.

Action of Salts in Baths.—Formerly it was believed that salts pass through the skin and enter the blood stream, but Frankenhäuser claims that their action is purely physical. In a saline bath, patients are surrounded by a medium which diminishes the dispersion of warmth and the loss of water from the skin, and which thus favors a better cutaneous circulation.

X-rays to Determine the Size of the Heart.—The only correct way we have to determine the size of the heart is by transillumination. The X-rays fail to show an increase in size with different positions of the body, after exercise, baths or the ingestion of alcohol. In aortic insufficiency a much larger shadow is obtained. This is not influenced by baths, but digitalis diminishes it considerably. In nervous hearts Grunach found three different shapes. (1) Normal shape; (2) duck-shape, owing to cardiaptosis; (3) enlargement, with trigeminal pulse.

Chemical Test for Leucocytosis.—When a blood count cannot be done, E. Mayer recommends the guaiac test, since this will be positive if more than 19,000 white cells are present. With a very large number, the addition of turpentine becomes unnecessary, since a ferment, which has the same action, is dissolved out of the cells.

Treatment of Adhesions.—A 10- to 20-per-cent. solution of thiosinamin in glycerin and water as injection is recommended by Friedlander. Marked improvement in general and local symptoms followed in all cases. He suggests also trying the remedy in peritoneal adhesions.

Cutaneous Tuberculide.—J. Comby advises changing the name of lichen scrophulosum into cutaneous tuberculide since it is really a manifestation of skin tuberculosis. Measles and pertussis favor its appearance by mobilizing bacilli, which have remained hidden in the body. The eruption is very easily cured, but it is important to recognize it, since it generally indicates a latent tuberculosis in some other organ.

Action of Phosphorus on Rachitis.—In none of the cases of rachitis examined could Stoelzner detect any pathological changes traceable to the action of the drug. Its efficiency is not, however, disproven since all three cases were of the severest type.

Hereditability of Rachitis.—F. Siegert believes that heredity is one of the most important etiological factors of rachitis. In most cases the mother has suffered from the disease in her youth. Even if such children receive natural food, they will not be protected from the disease. Prolonged nursing and advanced age of the mother play no part. An infection as cause is excluded. The social evil and diseases of the digestive and respiratory tract are the most important predisposing factors next to heredity.

The Rachitic Hand.—The delayed and incomplete development of the nuclei of the carpal bones and their epiphyses is considered by F. Siegert typical for the rachitic hand. The epiphyses of the ulna are first affected then those of the radium, distal ends of the metacarpals. The hand is generally long and narrow, while in myxedema it is short and broad.

Recent Operations for Prolapse.—Frank states there is no best operation for prolapse since the local conditions vary with every case. The most severe cases are generally easiest to treat, since they occur at an age where uterus and vagina no longer play an important part. The steps in an operation for total prolapse are the same as for a hernia: Reduction, removal of the sac (the invaginated peritoneum), and closure of the ring and canal. Sometimes it is best to simply remove the uterus with the greater part of the vagina and pelvic peritoneum. The uterus is here pulled downward, the vagina incised at the level of the fundus and the vessels of the parametrium ligated extraperitoneally. The peritoneum is not incised, but the entire prolapsed mass is simply tied off with an elastic ligature, and then cut off like a polyp. The remainder of the vagina is removed from below and the fasciæ and muscles are reunited in a second sitting. With marked cystocele or rectocele, the bladder or rectal wall must be invaginated by catgut ligatures.

Ventrofixture and Vaginifixture.—Many gynecologists believe these two operations are not indicated if the patient is still liable to bear children, but v. Guérard emphatically states that this is not so, if the fixation is not too firm. With only two or three ligatures beneath the fundus, dystocia is improbable. In 57 births after ventrofixture, a recurrence was noticed only twice. In 51 the subsequent labors were normal, in 5 the forceps were necessary, and in one case there was severe atony. In 41 cases after vaginifixture, the forceps were applied four times. Abortions were not noticed more often than with normal conditions.

Hot-air Treatment in Gynecology.—Hot air is much more efficient for chronic pelvic exudates than hot water. Tuszkai could find no change in the physical signs, but the pain and other symptoms rapidly disappear and the patients are again able to work. Probably the exudates are not absorbed, but become chronic more rapidly. The temperature should be gradually increased up the 80 to 90° C., which can be readily borne without burning the parts.

Pathology of Ectopic Gestation.—An interesting contribution to the pathology of extrauterine pregnancy is given by O. Fellner. He finds that in the majority of cases the ovum is imbedded in a diverticulum of the tube and not in the tube itself. The musculature of these diverticula is generally so poorly developed that the ovum cannot be expelled. Unlike the mucous lining of the tube proper, that of the diverticula is unable to form a true decidua, so that the imprisoned ovum rapidly dies. Where a decidua has formed the pouch was probably so shallow that the mucosa of the tube proper invested the egg.

Source of Puerperal Infection.—In every clinic cases of puerperal infection will occasionally occur, despite the most careful asepsis. If pains are taken, the origin can, however, be traced in most instances. Thus Büttner speaks of the possibility of a simple angina being at fault. He has experienced an epidemic with six deaths, where the infection probably traveled from a sore throat.

Double Pregnancy.—v. Neugebauer demonstrated specimens from a case of combined intra- and extrauterine gestation. The ova were of different ages, the normal one being ten weeks old and the ectopic one fourteen to seventeen days. Though the right tube was found ruptured, both corpora lutea were situated in the left ovary. In looking over the literature, 129 similar cases were encountered.

Treatment of Uncomplicated Retroflexion.—The disturbances following retroflexion are usually due to cervical catarrh, endometritis or diseased adnexa, according to Koetschau. In many flexions, the uterine changes are responsible for symptoms and change of position both. A parenchymatous metritis will remain, and will continue to cause suffering, even if the flexion is corrected. But uncomplicated cases may also give rise to symptoms, such as headache, gastric pain, backache and habitual abortion. Treatment is, therefore, always indicated, especially since prolapse may otherwise follow.

BOOK REVIEWS.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. BERGEN OGDEN, M.D., formerly Instructor in Chemistry, Harvard University Medical School, Boston; Assistant in Clinical Pathology, Boston City Hospital, etc. Second revised edition. W. B. Saunders & Co., New York, Philadelphia and London.

DR. OGDEN'S book, in its second edition, promises to prove even more useful to the practitioner than it was originally. Those familiar with it will recognize that this means much, since it is without doubt one of the most complete practical diagnostic manuals at present before the profession. It is exceptionally full and detailed, and the brief summary of diseases of the kidney in connection with the examination of the urine and urinary diagnosis makes it a very handy manual for the study of nephritic affections, since it does away with the need of further consultation, except in very difficult cases. The illustrations, especially those in colors, are very well executed and cannot but prove extremely helpful.

DISEASES OF THE SKIN. AN OUTLINE OF THE PRINCIPLES AND PRACTICE OF DERMATOLOGY. By MALCOLM MORRIS, Consulting Surgeon to the Skin Department of St. Mary's Hospital, London. New Edition. W. T. Keener & Co., Chicago.

DR. MORRIS' valuable little manual on skin diseases, though issued in its original edition only in 1898, has been out of print for some time. The writer has been

too busy to give the volume the attention he deemed necessary in order to bring it up to date. There is probably no other book of the same size in English that contains anything like the amount of information, in a very practical way, that is given in this. The index is especially valuable and is an important feature in the 600-page manual, particularly as it is arranged with special attention to cross references as regards treatment. Dr. Morris has always been a popular writer on this subject and his second edition will surely add to his reputation.

A COMPOUND OF HUMAN ANATOMY. By SAMUEL O. L. POTTER, M.A., M.D., M.R.C.P. Lond., Formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco; Author of the "Handbook of Materia Medica, Pharmacy and Therapeutics," "Quizcompend of Materia Medica," "Index of Comparative Therapeutics," and "Speech and Its Defects." Seventh edition. Revised and enlarged. P. Blakiston's Son & Co., Philadelphia.

SINCE the publication of this work for the first time, twenty years ago, it has proven to be of so much help to a goodly percentage of students in nearly all the medical colleges of the country that it now, in its up-to-date condition, requires no introduction to the medical profession. Gray's Anatomy has been taken as a basis for the work, but the present edition has been entirely rewritten and Morris, Quain and other recognized authorities have been freely consulted in the preparation of it. Although clearness and conciseness are important and well-deserved characteristics of this volume, it cannot be rightfully urged that these qualities have been attained by the omission of the essential features of the subjects treated. It is well illustrated by tables, plates and diagrams, many of them appearing for the first time in this edition. The student cannot fail to appreciate the helpfulness of such a standard book, especially in his preparations for quiz and examinations.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, etc. By Leading Members of the Medical Profession Throughout the World. Edited by A. O. J. KELLY, A.M., M.D. With the Collaboration of Regular Correspondents in Montreal, London, Paris, Berlin, Vienna, Leipzig, Brussels and Carlsbad. Volume III, Thirteenth Series. J. B. Lippincott Company, Philadelphia.

THE present volume of the International Clinics is occupied in its first hundred pages with a symposium on diseases of the gall-bladder and gall-ducts. This subject is so up-to-date in its interest that it can scarcely fail to attract attention. Among the contributors to the symposium are Dr. Musser, of Philadelphia, who discusses the medical aspect of biliary disease; Dr. Rudolph, of London, Ontario, who discusses the symptoms and diagnosis; Dr. Charles Stockton, of Buffalo, who discusses the medical treatment; Dr. F. Parks Weber, of London, England, who presents biliary cirrhosis of the liver, complicated by cholelithiasis; Dr. Lejars of the Faculty of Medicine of Paris, who suggests the indications for surgical intervention, and Dr. John B. Deaver, of Philadelphia, who discusses the surgical and postoperative treatment. All of the papers are thoroughly clinical in character, containing many practical hints and without any waste of words.

A very timely clinical lesson in the present volume is that on the treatment of pneumonia, by Dr. David W. Finlay, Professor of Medicine in the University of Aberdeen. Among the contributions on the subject of General Medicine are articles on clinical types of pneumonia, with special reference to aberrant forms, by Dr. R. Murray Leslie of London, and sudden death due to respiratory disorder, by Dr. Thomas J. Mays, of Philadelphia.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A Guide to the Application of Water in Disease, for Students and Practitioners of Medicine. By SIMON BARUCH, M.D., Professor of Hydrotherapeutics in the New York Post-Graduate School, etc. Second Edition, Revised and Enlarged. William Wood & Co., New York.

DR. BARUCH has done much to bring hydrotherapy into good repute here in America. The present treatise, now in its second edition, is the best evidence of the serious character and valuable influence of his work. It is to be hoped that his contributions to the literature of the subject will finally bring about what has been so long his dearest wish, the regular teaching of hydrotherapy in the medical schools. The present volume contains an epitome of the history of hydrotherapy, which shows very distinctly how the neglect of the subject, by regular practitioners, has constantly thrown it into the hands of quacks and charlatans, with consequent obscuration of the good in it, to the detriment of therapeutics generally. Certainly anyone who reads Dr. Baruch's book attentively will be convinced of the great possibilities for good that there are in exact hydrotherapeutics, applied according to proper indication. The book deserves a place on the shelves of every general practitioner of medicine.

SURGICAL ASEPSIS. Especially Adapted to Operations in the Home of the Patient. By HENRY B. PALMER, M.D., Consulting Surgeon to the Central Maine General Hospital, With Ninety Illustrations. F. A. Davis Co., Philadelphia.

THIS little volume contains in condensed form the conclusions which investigators on asepsis have reached and gives directions for their application in practice. It is designed primarily for those deprived of the hospital facilities afforded by larger cities, and should prove a reliable *vade mecum* to the man thrown upon his own resources in operating. Many ingenious adaptations of easily obtainable articles to eke out surgical emergencies are described and the author will no doubt earn many thanks from colleagues for whom he has made easier the difficult path of asepsis.

NERVOUS AND MENTAL DISEASES. By ARCHIBALD CHURCH, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and FREDERICK PETERSON, M.D., President New York State Commissioner in Lunacy; Chief of Clinic, Department of Nervous Diseases, College of Physicians and Surgeons, New York. Fourth Edition, Thoroughly Revised and Enlarged. W. B. Saunders & Co., Philadelphia, New York and London.

IN four years this text-book of nervous and mental diseases has reached its fourth edition. This is of itself sufficient evidence of its general appreciation by students and practitioners. The present edition contains a number of valuable additions, among them paragraphs on intermittent limping, now known to be dependent upon a definite pathological lesion situated in the posterior root ganglia, and some paragraphs devoted to the form epilepsy associated with mild myoclonus, an affection that has in recent years attracted a good deal of attention under the name of the combination disease.

A very valuable feature of the present edition is a chapter by Dr. Adolph Mayer, the head of the pathological department of the New York State Hospital for

the Insane, in which he discusses the present status of insanity, according to the views of the best known European specialists. In recent years a great change has come over the method of writing text-books of mental diseases, and certain of the prominent German alienists have attempted a new classification of the insanities. The best known of these authorities, Kraepelin, Wernicke, Ziehen, and Mendel, have made various suggestions as to the rearrangement of nervous diseases in such a way as to make their recognition and study more assured. Few men are better fitted than Dr. Mayer to give such a review as this, and this chapter of the book is one of the most informing contributions to the literature of mental diseases in America that has been made in some time.

THE TREATMENT OF CERTAIN MALIGNANT GROWTHS BY EXCISION OF THE EXTERNAL CAROTIDS. By ROBERT H. M. DAWBARN, M.D., Professor of Surgery and Surgical Anatomy in the New York Polyclinic Medical School and Hospital; Visiting Surgeon to the City Hospital, New York, etc. (The Samuel D. Gross Prize Essay.) F. A. Davis Co., Philadelphia.

THIS little book is an excellent testimonial to some good, original work of great value done by an American surgeon. There is no doubt of the wisdom of the trustees of the Gross Prize in conferring on Dr. Dawbarn's essay the distinction it so well deserves. The method of treatment of course must still be tried in a great many cases before its absolute worth to surgery can be decided. Even though it should prove eventually not an operation of choice, being replaced by some more successful method of treatment, there is no doubt that the work done on it will remain as a landmark in our knowledge of surgical operations upon arteries, and will be a source of valuable information of the blood supply of the face. In the meantime, for sarcomatous growths the treatment is surely hopeful. For cancer it furnishes relief from pain and lengthens life in comparative comfort. Nothing in recent years has done more, if as much, in the realm of these obstinate and so often hopeless affections.

CONSUMPTION A CURABLE AND PREVENTABLE DISEASE, What a Layman Should Know About It. By LAWRENCE FLICK, M.D., Medical Director of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis. David McKay, Philadelphia.

PHYSICIANS are often asked how can a layman obtain a practical knowledge of the present position of the medical profession with regard to consumption, its cure and prevention. The best answer is to recommend a copy of this book. For charity workers, for nurses, for those who have relatives suffering from tuberculosis, for settlement workers, and visitors to slums, as well as for patients who are themselves suffering from tuberculosis there is no easier way of securing all the knowledge they need than by a perusal of this little volume. It has no technicalities; there is no waste of words. Dr. Flick makes many striking points. He discusses such questions as "Is Consumption Inherited?" "How Tuberculosis Is Spread," "Consumption as a House Disease, and the Rôle of the Workshop, the Store, the Office and Hotels and Boardinghouses in the Spread of Tuberculosis." At the same time he gives very encouraging answers as to how to avoid consumption, how to prevent its spread, how it can be cured in an early stage. At the end there is the discussion of the problems: "Should a Consumptive Marry?" and "Should a Consumptive Suckle Her Child?" The book will surely make a place for itself in the present crusade against tuberculosis.

THE SURGICAL TREATMENT OF GASTRIC AND DUODENAL ULCERS. By B. G. A. MOYNIHAN, M.S. (Lond.), F.R.C.S., Eng., Senior Assistant Surgeon, Leeds General Infirmary; Consulting Surgeon to the Skipton Hospital, and to the Mirfield Memorial Hospital, etc. Illustrated. W. B. Saunders & Co., New York, Philadelphia and London.

THE attractive personality exhibited by the author on the occasion of his recent visit to this country adds interest to the work in question as well as his eminence in the field of surgery it discusses. It is an ideal presentation of the results of one man's own work and the conclusions he has reached, and for systematic classification, clear-cut directness of expression and logical thought leaves nothing to be desired. The work is divided into four parts devoted to Perforation of Gastric or Duodenal Ulcers, Hemorrhage, Chronic Ulcer and Hour-glass Stomach. Under the first heading the author calls attention to the ease with which intestinal contents can reach the right iliac fossa in cases of perforated duodenal ulcer, and thus simulate, both before and during operation, acute appendicitis. In all cases of perforation it should be remembered that double perforation occurs in 20 per cent., the second ulcer usually being on the posterior wall of the stomach, exactly opposite the first, and the entire surface of the organ should, therefore, be scrutinized. In all cases of hemorrhage from a chronic ulcer operation should be performed at the earliest possible moment. Search for the bleeding points or excision of the individual ulcers, which are often very numerous, is not necessary; gastro-enterostomy will prevent further hemorrhage and lead to rapid healing of the ulcers. Duodenal ulcer rarely exists without the coexistence of gastric ulcer. The author advances the theory that duodenal ulceration occurs only, or at least most easily, with excess of free hydrochloric acid, and he believes the sequence of events to be gastric ulcer, hyperchlorhydria, duodenal ulcer. In performing his gastro-enterostomies the author has given up the use of mechanical aids and uses a simple and rapid method by suture, which is clearly described and figured. The consideration of hour-glass stomach, which follows, is of equal value and the statistical tables which complete the volume are valuable additions to the mathematics of the subject. Enough has been said to indicate the importance of the book, which will prove of interest to both medical men and surgeons.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

DISEASES OF THE EYE. By Drs. H. F. Hansel and W. M. Sweet. 8vo, 532 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

COMPEND OF GYNECOLOGY. By Dr. W. H. Wells. Third edition, Demi 8vo, 293 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

A MANUAL OF BACTERIOLOGY. By Dr. Herbert N. Williams. 8vo, 351 pages. Third edition. Illustrated. P. Blakiston's Son & Co., Philadelphia.

A TEXT-BOOK OF OBSTETRICS. By Dr. J. C. Webster. 8vo, 767 pages. Illustrated. W. B. Saunders & Co., Philadelphia, New York and London.

THE CLINICAL PATHOLOGY OF THE BLOOD. By Dr. Jas. Ewing. Second edition. 8vo, 495 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

LESSONS ON THE EYE FOR THE USE OF UNDERGRADUATE STUDENTS. By Dr. Frank L. Henderson. 8vo, 205 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.